FOR A BETTER TOMORROW
**WE PLAY TODAY**
shapedbyplay.com

Proudly presented by:
Mike Bennett

landscape structures®

RecWest
OUTDOOR PRODUCTS, INC.

72"
1830

41 3/4"
1060

(2) Legs

(15) Bars

Metallo Bar
Permalene
Bottom

Metallo Bar
Permalene Top

Cradle
Top

Cradle
Bottom

Mallet ASM
Black

Mallet ASM
Grey

**Sensory Play**

**214438 Animato™ Metallophone**

Sheet 1 of 3

Document #23207200

216984d

## DETAIL
### DIRECT BURY

Finished Grade

Loose Fill Protective Surfacing

Subgrade

Concrete

Crushed Rock

34"
860

20" Min.
510

14"
360

14"
360

65 ¹/₂"
1663

## DETAIL
### SURFACE MOUNT

(8) ¹/₂" Standard Hex Nuts w/ ¹/₂" Flat Washers

(2) Legs

(8) ¹/₂" x 2 ³/₄" Expansion Anchors

Concrete Slab

Crushed Rock

## DETAIL
### PROPPED IN FINAL POSITION

**NOTE: Picture shown is an example of how to prop the Animato Metallophone assembly in final position, using 2 x 4 boards and wooden stakes, prior to pouring concrete footings.**
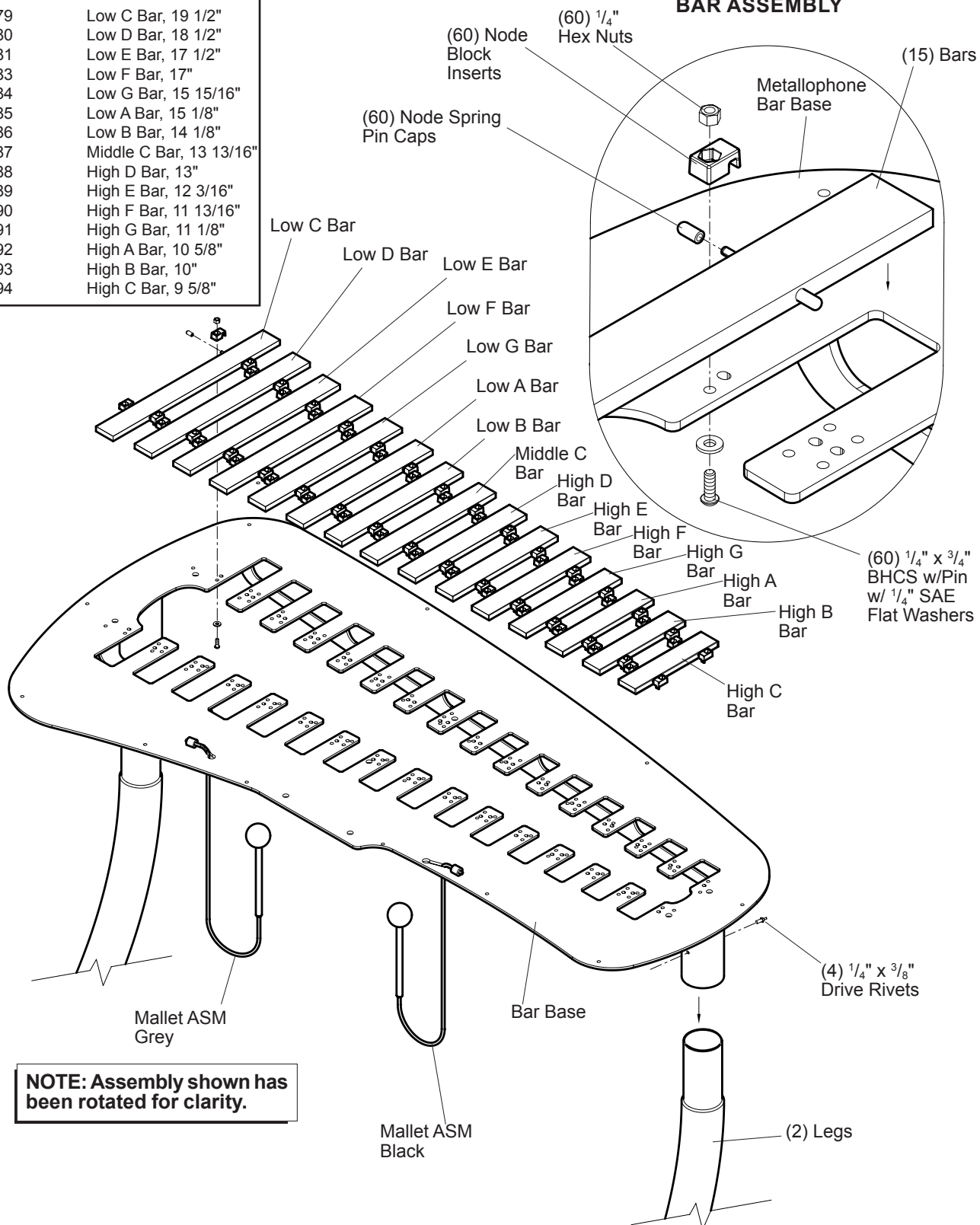
**Sensory Play**

# 214438 Animato™ Metallophone

**landscape structures®**

216984a

| | |
|---|---|
| 204279 | Low C Bar, 19 1/2" |
| 204280 | Low D Bar, 18 1/2" |
| 204281 | Low E Bar, 17 1/2" |
| 204283 | Low F Bar, 17" |
| 204284 | Low G Bar, 15 15/16" |
| 204285 | Low A Bar, 15 1/8" |
| 204286 | Low B Bar, 14 1/8" |
| 204287 | Middle C Bar, 13 13/16" |
| 204288 | High D Bar, 13" |
| 204289 | High E Bar, 12 3/16" |
| 204290 | High F Bar, 11 13/16" |
| 204291 | High G Bar, 11 1/8" |
| 204292 | High A Bar, 10 5/8" |
| 204293 | High B Bar, 10" |
| 204294 | High C Bar, 9 5/8" |

## DETAIL
### BAR ASSEMBLY

(60) $\frac{1}{4}$" Hex Nuts

(60) Node Block Inserts

(60) Node Spring Pin Caps

Metallophone Bar Base

(15) Bars

Low C Bar

Low D Bar

Low E Bar

Low F Bar

Low G Bar

Low A Bar

Low B Bar

Middle C Bar

High D Bar

High E Bar

High F Bar

High G Bar

High A Bar

High B Bar

High C Bar

(60) $\frac{1}{4}$" x $\frac{3}{4}$" BHCS w/Pin w/ $\frac{1}{4}$" SAE Flat Washers

Mallet ASM Grey

**NOTE: Assembly shown has been rotated for clarity.**

Bar Base

(4) $\frac{1}{4}$" x $\frac{3}{8}$" Drive Rivets

Mallet ASM Black

(2) Legs

**Sensory Play**     **214438 Animato™ Metallophone**     Sheet 2 of 3

Document #23207200

landscape
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**NOTE: Assembly shown has been rotated for clarity.**

**NOTE: Mallet aluminum ferrule must lay flat when attaching Permalene bottom.**



## DETAIL
### CRADLE BRACKET ATTACHMENT

(2) $^3/_8$" Hex Nuts w/Patch w/ $^3/_8$" SAE Flat Washers

Metallophone Bar Base

Cradle Bracket

(2) $^3/_8$" x $^7/_8$" BHCS w/Pin w/ $^3/_8$" SAE Flat Washers

**IMPORTANT! Do not use an impact wrench to tighten BHCS Torx bolts. Hand tighten only.**

## DETAIL
### PERMALENE BOTTOM ATTACHMENT

(6) $^3/_8$" Flange Nuts w/Pin

Metallo Bar Permalene Bottom

Metallophone Bar Base

(17) #14 x 1" BHCS Torx w/ $^1/_4$" Nylon Washers

(6) $^3/_8$" x $^7/_8$" BHCS w/ Pin w/ $^3/_8$" SAE Flat Washers

**Sensory Play**            **214438 Animato™ Metallophone**

**landscape structures**®

ISO 14001 CERTIFIED

ISO 9001 Certified

**DETAIL**
**MALLET CRADLE**
**ASSEMBLY**

**DETAIL**
**METALLO BAR PERMALENE**
**TOP ATTACHMENT**
**(BOTTOM VIEW)**

Mallet Cradle Permalene Top

Metallo Bar Permalene Top

Cradle Bracket

(4) Music Belt Wedges

Metallophone Bar Base

Metallo Bar Permalene Bottom

Mallet Cradle Permalene Bottom

(7) #14 x 1" BHCS Torx

(32) #14 x 1 $^3/_4$" BHCS Torx w/ $^1/_4$" Nylon Washers

**IMPORTANT! Do not use an impact wrench to tighten BHCS Torx bolts. Hand tighten only.**

**Sensory Play**

# 214438 Animato™ Metallophone

Document #23207200

# Sensory Play 214438 Animato™ Metallophone

**landscape structures®**

## Parts List

| Part# | Description | Qty. |
|---|---|---|
| 211072 | Metallophone Bar Base, Specify Color | 1 |
| 211073 | Metallo Bar Permalene Bottom, Specify Color | 1 |
| 211074 | Metallo Bar Permalene Top, Specify Color | 1 |
| 213638 | Metallophone Leg, (DB), Specify Color | 2 |
| 211033 | Metallophone Leg, (SM), Specify Color | 2 |
| 215141 | Mallet Cradle Bracket, Specify Color | 1 |
| 215142 | Mallet Cradle Permalene Top, Specify Color | 1 |
| 215735 | Mallet Cradle Permalene Bottom, Specify Color | 1 |
| | | |
| **218898** | **Animato Chimes Kit** | 1 |
| 204279 | Low C Bar, 19 1/2" | 1 |
| 204280 | Low D Bar, 18 1/2" | 1 |
| 204281 | Low E Bar, 17 1/2" | 1 |
| 204283 | Low F Bar, 17" | 1 |
| 204284 | Low G Bar, 15 15/16" | 1 |
| 204285 | Low A Bar, 15 1/8" | 1 |
| 204286 | Low B Bar, 14 1/8" | 1 |
| 204287 | Middle C Bar, 13 13/16" | 1 |
| 204288 | High D Bar, 13" | 1 |
| 204289 | High E Bar, 12 3/16" | 1 |
| 204290 | High F Bar, 11 13/16" | 1 |
| 204291 | High G Bar, 11 1/8" | 1 |
| 204292 | High A Bar, 10 5/8" | 1 |
| 204293 | High B Bar, 10" | 1 |
| 204294 | High C Bar, 9 5/8" | 1 |
| 220677 | Mallet Assembly, Black | 1 |
| 220676 | Mallet Assembly, Grey | 1 |
| | | |
| **232115** | **Animato™/Vivo™ Chimes Hardware Package** | 1 |
| 211443 | Node Block w/Insert | 66 |
| 162374 | 1/4" x 3/4" BHCS w/Pin, SST | 66 |
| 100364 | 1/4" SAE Flat Washer, SST | 66 |
| 212291 | Node Spring Pin Cap | 66 |
| 228545 | Music Belt Wedge | 4 |
| 216761 | #14 x 1" BHCS (Torx), SST | 26 |
| 216762 | #14 x 1 3/4" BHCS (Torx), SST | 37 |
| 100365 | 3/8" SAE Flat Washer, SST | 11 |
| 100196 | 3/8" x 7/8" BHCS (Torx), SST | 9 |
| 100353 | 3/8" Flange Nut w/Pin, SST | 7 |
| 100321 | 3/8" Hex Patch Nut, SST | 3 |
| 216777 | 1/4" Hex Nut, SST | 66 |
| 127463 | T-27 TPP Hex Bit (Torx), SST | 1 |
| 100611 | 1/4" x 3/8" Drive Rivet, AL/SST | 5 |
| 133368 | 1/4" Nylon Washers | 62 |
| | | |
| **121348** | **4-Hole Surface Mount Hardware Package** | 2 |
| 100266 | 1/2" x 2 3/4" Standard Hex Nut, SST | 8 |
| 100322 | 1/2" Standard Hex Nut, SST | 8 |
| 100363 | 1/2" Flat Washer, SST | 8 |

**DB = Direct Bury**
**SM = Surface Mount**

## Specifications

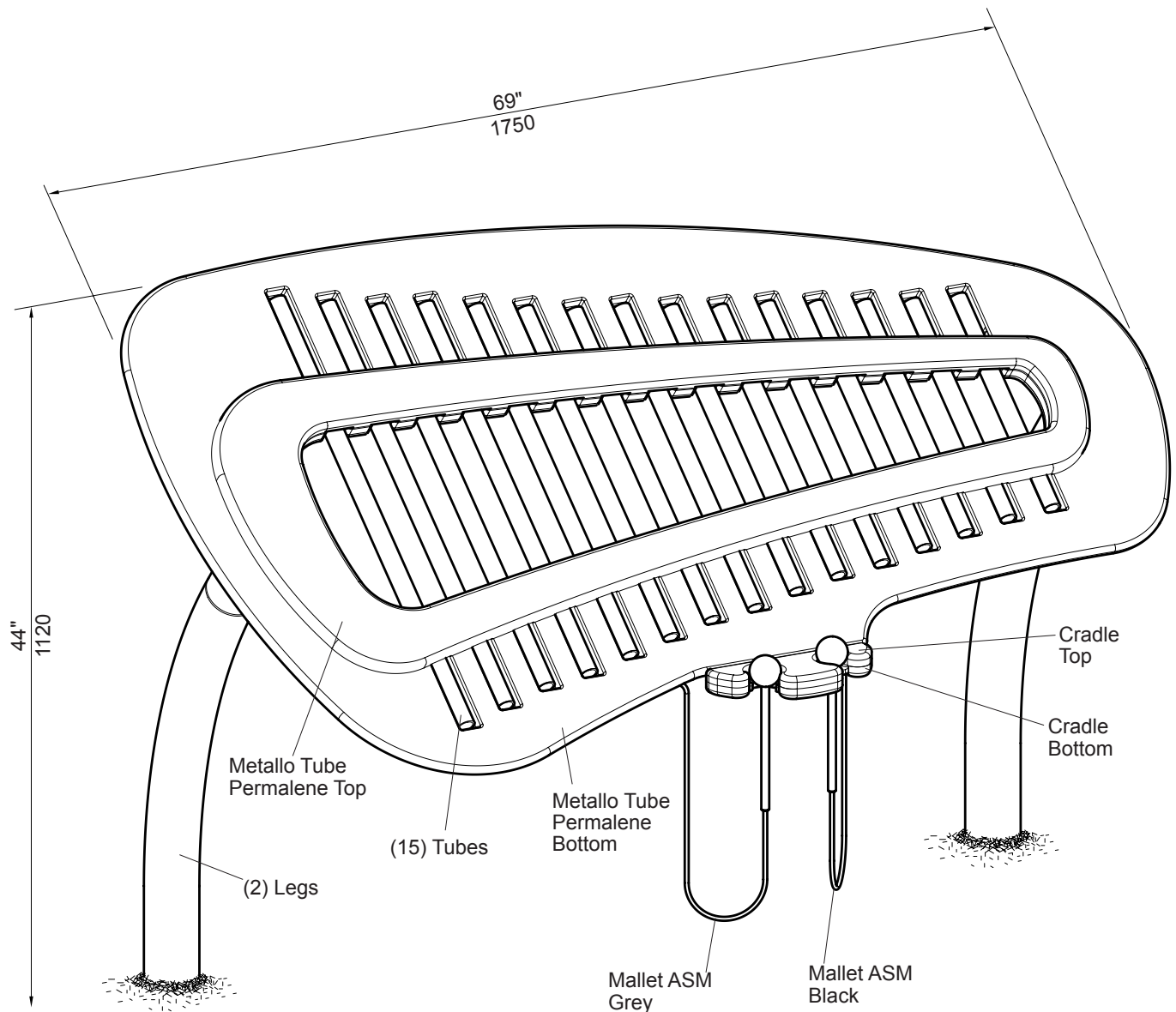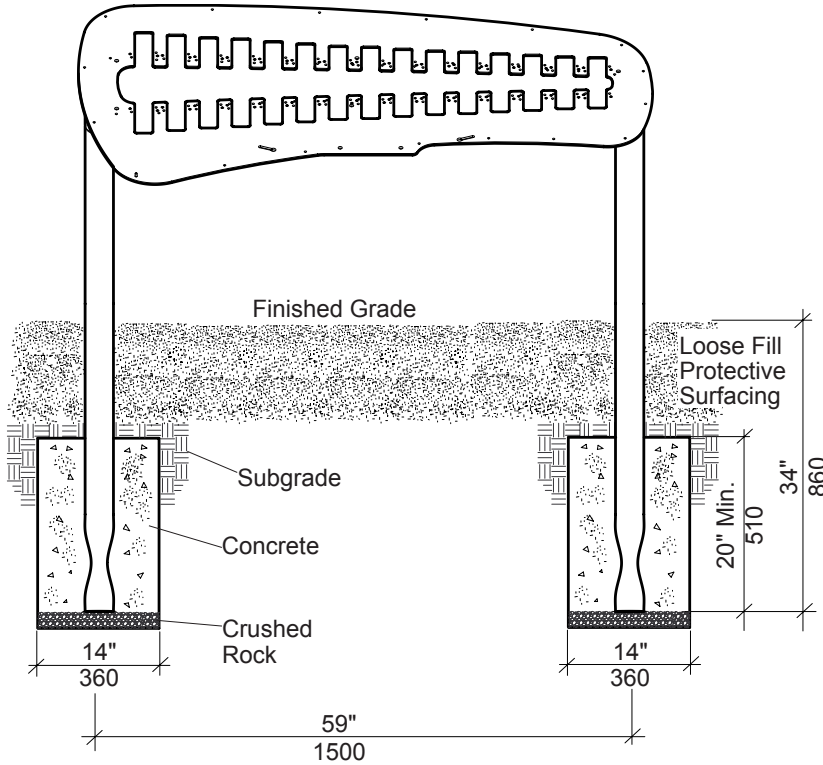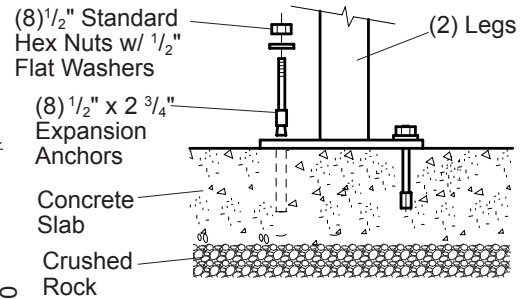| | |
|---|---|
| **Bar Base:** | Weldment comprised of 3.500" (88,9 mm) O.D. RS20 (.125")(3,17 mm) wall galvanized steel tubing, and 1/4" (6,35 mm) thick HRPO steel sheet. Finish: ProShield®, color specified. |
| **Bar Top & Bottom:** | Permalene®, color specified. |
| **Leg:** | Weldment comprised of 3.500" (88,9 mm) O.D. RS20 (.125")(3,17 mm) wall galvanized steel tubing. Finish: ProShield®, color specified. |
| **Bars:** | Made from 1/2" (12,7 mm) thick x 2" (50,8 mm) wide aluminum. |
| **Cradle Bracket:** | Made from 1/4" (6,35 mm) thick HRPO steel sheet. Finish: ProShield®, color specified. |
| **Cradle Top & Bottom:** | Permalene®, color specified. |
| **Mallet:** | Comprised of 2" (50,8 mm) diameter grey & black polyurethane, 1/2" (12,7 mm) diameter aluminum handle and 3/16" (4,74 mm) diameter stainless steel cable with nylon coating. |
| **Fasteners:** | Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications). |
| **Installation Time:** | **DB** - Approx. 8 man hours<br>**SM** - Approx. 6 man hours |
| **Concrete Req.:** | **DB** - Approx. 3.56 cu. ft. |
| **Weight:** | **DB** - 251 lbs.<br>**SM** - 238 lbs. |

## Installation Instructions

1) **(Direct Bury)** Dig footings as shown.

2) Insert metallophone legs into bar base tubes. Measurement from center to center of each leg should be 65 1/2" (1663 mm). With legs in correct position, drill through holes in bar base tubes and into metallophone legs with a 1/4" or "F" (only) drill bit. Insert 1/4" x 3/8" drive rivets into holes and hammer rivet pins in until flush with head. Refer to sheet 2.

3) **(Direct Bury)** Place metallophone legs into footing holes. With metallophone legs propped in plumb and final position, pour concrete footings. Allow concrete footings to cure for a minimum of 24 hours before completing assembly. **NOTE:** *See back of sheet 1 for an example of Animato Metallophone assembly propped in final position.*

   **(Surface Mount)** With metallophone legs in plumb position, drill 1/2" x 3" deep holes through metallophone leg plates using hammer drill and 1/2" masonry bit. Tap expansion anchors into drilled holes. Fasten metallophone leg plates to expansion anchors using 1/2" standard hex nuts with 1/2" flat washers.

4) Place node spring caps on each end of bar pins. Attach bars and mallets to bar base as shown. Refer to the Bar Assembly Detail.

5) Attach cradle bracket to bar base. Refer to the Cradle Bracket Attachment Detail.

6) Attach metallo bar Permalene bottom to bar base. Refer to the Permalene® Bottom Attachment Detail.

7) Attach mallet cradles to cradle bracket, as shown. Refer to the Mallet Cradle Assembly Detail.

8) Attach metallo bar Permalene top to metallophone bar base, as shown. Refer to the Metallo Bar Permalene Top Attachment Detail.

69"
1750

44"
1120

Cradle
Top

Cradle
Bottom

Metallo Tube
Permalene Top

(15) Tubes

Metallo Tube
Permalene
Bottom

(2) Legs

Mallet ASM
Grey

Mallet ASM
Black

**Sensory Play**

**214441 Vivo™ Metallophone**

Sheet 1 of 3

Document #23207100

216985a

## DETAIL
### DIRECT BURY

Finished Grade

Loose Fill
Protective
Surfacing

Subgrade

Concrete

Crushed
Rock

14"
360

14"
360

34"
860

20" Min.
510

59"
1500

## DETAIL
### SURFACE MOUNT

(8) 1/2" Standard
Hex Nuts w/ 1/2"
Flat Washers

(8) 1/2" x 2 3/4"
Expansion
Anchors

(2) Legs

Concrete
Slab

Crushed
Rock

## DETAIL
### PROPPED IN FINAL POSITION



**NOTE: Picture shown is an example of how to prop the Vivo Metallophone assembly in final position, using 2 x 4 boards and wooden stakes, prior to pouring concrete footings.**

**Sensory Play**

# 214441 Vivo™ Metallophone

landscape structures®

ISO 14001 CERTIFIED

ISO 9001 Certified

| 204303 | Low C Tube, 32 5/8" |
| 204304 | Low D Tube, 30 11/16" |
| 204305 | Low E Tube, 29" |
| 204306 | Low F Tube, 28 3/16" |
| 204307 | Low G Tube, 26 5/8" |
| 204308 | Low A Tube, 25 1/8" |
| 204309 | Low B Tube, 23 11/16" |
| 204310 | Middle C Tube, 23" |
| 204311 | High D Tube, 21 11/16" |
| 204312 | High E Tube, 20 1/2" |
| 204313 | High F Tube, 19 13/16" |
| 204314 | High G Tube, 18 11/16" |
| 204315 | High A Tube, 17 5/8" |
| 204316 | High B Tube, 16 5/8" |
| 204317 | High C Tube, 16 3/16" |

## DETAIL
### TUBE ASSEMBLY

(60) $1/4$" Hex Nuts

(60) Node Block Inserts

(60) Node Spring Pin Caps

(15) Tubes

Low C Tube
Low D Tube
Low E Tube
Low F Tube
Low G Tube
Low A Tube
Low B Tube
Middle C Tube
High D Tube
High E Tube
High F Tube
High G Tube
High A Tube
High B Tube
High C Tube

Metallophone Tube Base

Mallet ASM Grey

Mallet ASM Black

NOTE: Assembly shown has been rotated for clarity.

(60) $1/4$" x $7/8$" BHCS w/Pin w/ $1/4$" SAE Flat Washers

Metallophone Tube Base

(4) $1/4$" x $3/8$" Drive Rivets

**Sensory Play**

# 214441 Vivo™ Metallophone

Sheet 2 of 3

Document #23207100

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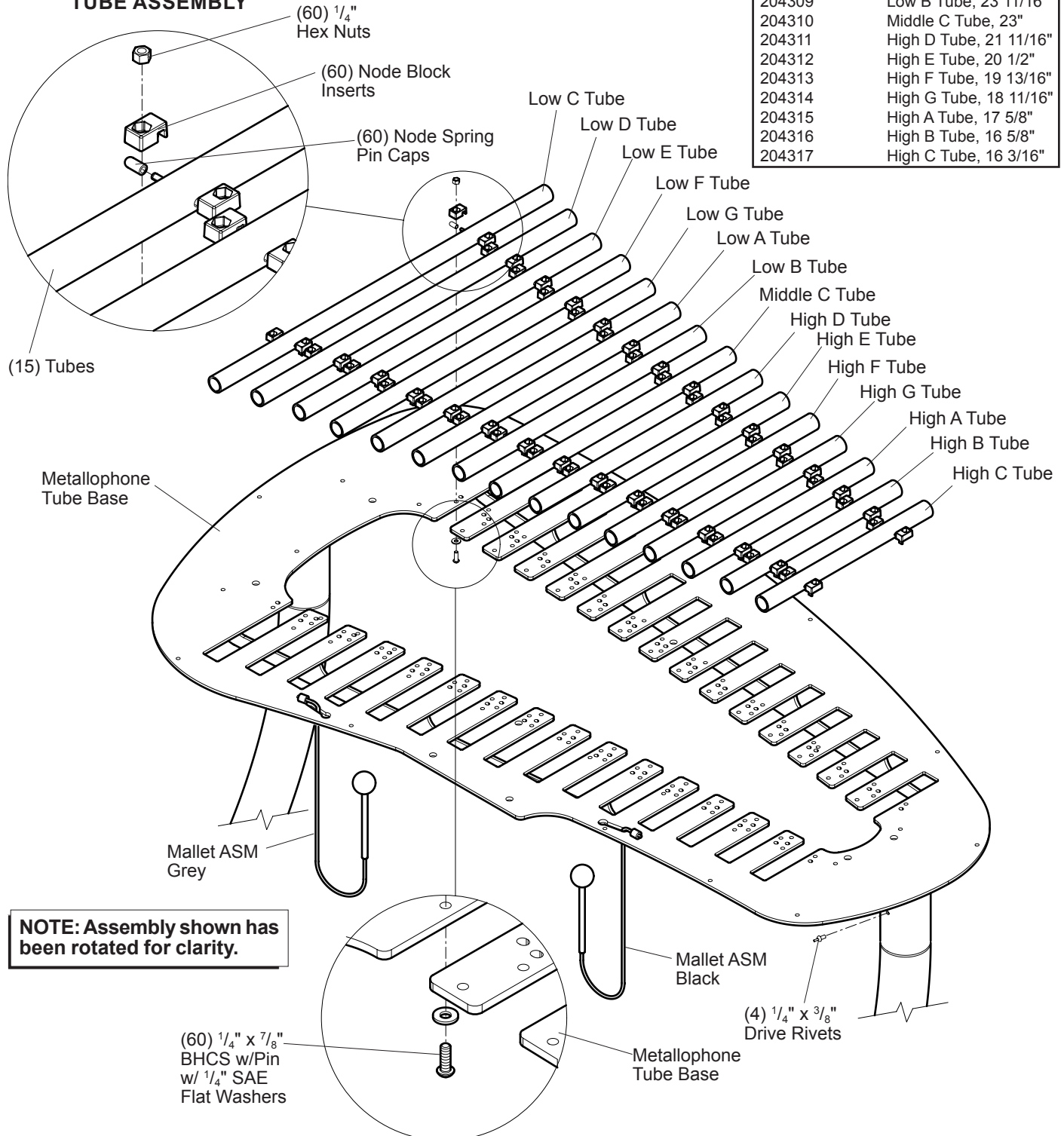
NOTE: Assembly shown has been rotated for clarity.
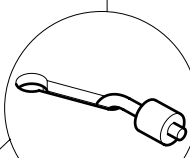
NOTE: Mallet aluminum ferrule must lay flat when attaching Permalene bottom.

(2) $^3/_8$" Hex Nuts w/Patch w/ $^3/_8$" SAE Flat Washers

(6) $^3/_8$" Flange Nuts w/Pin

Metallo Tube Permalene Bottom

Metallophone Tube Base

(2) $^3/_8$" x $^7/_8$" BHCS w/Pin w/ $^3/_8$" SAE Flat Washers

**DETAIL**
**CRADLE BRACKET ATTACHMENT**

Cradle Bracket

Metallophone Tube Base

**IMPORTANT! Do not use an impact wrench to tighten BHCS Torx bolts. Hand tighten only.**

(15) #14 x 1" BHCS Torx w/ $^1/_4$" Nylon Washers

(6) $^3/_8$" x $^7/_8$" BHCS w/ Pin w/ $^3/_8$" SAE Flat Washers

**DETAIL**
**PERMALENE BOTTOM ATTACHMENT**

**Sensory Play**

**214441 Vivo™ Metallophone**
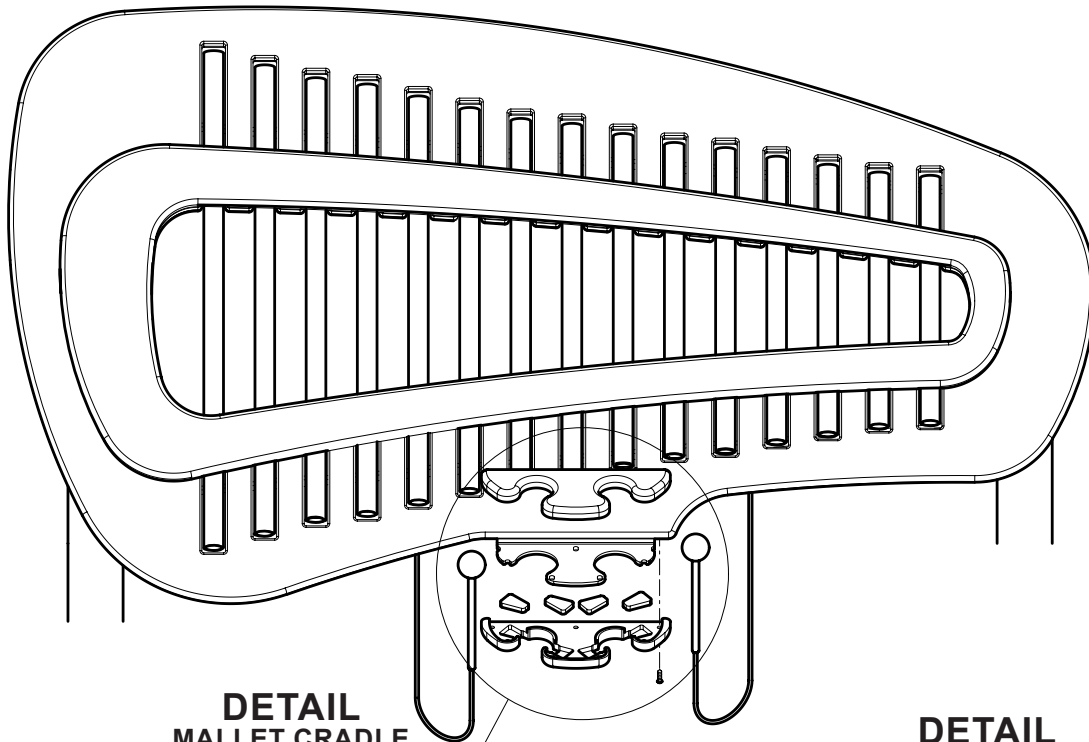
**DETAIL**
**MALLET CRADLE ASSEMBLY**
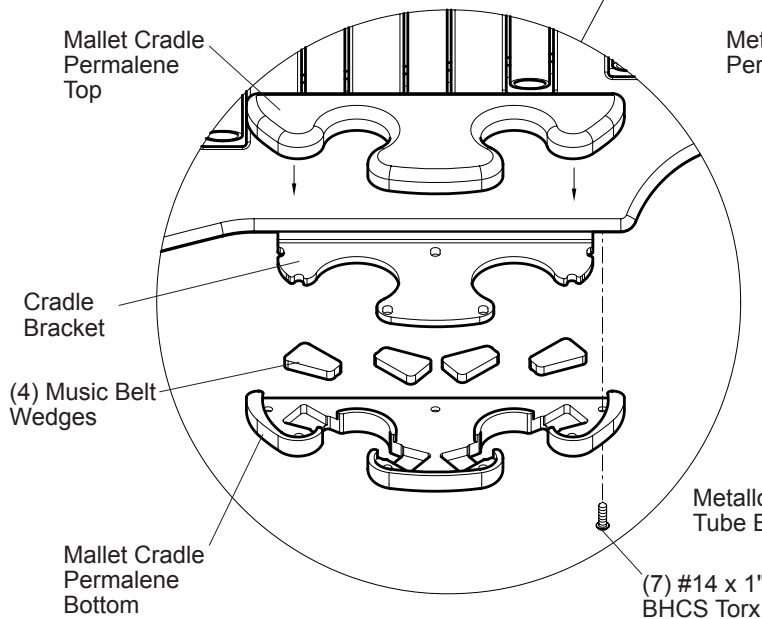
**DETAIL**
**METALLO TUBE PERMALENE TOP ATTACHMENT**
**(BOTTOM VIEW)**

Mallet Cradle Permalene Top

Cradle Bracket

(4) Music Belt Wedges

Mallet Cradle Permalene Bottom

Metallo Tube Permalene Top

Metallo Tube Permalene Bottom

Metallophone Tube Base
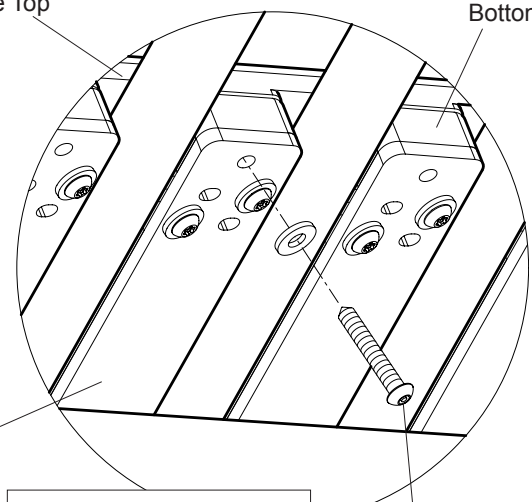
(7) #14 x 1" BHCS Torx

**IMPORTANT! Do not use an impact wrench to tighten BHCS Torx bolts. Hand tighten only.**

(34) #14 x 1 $3/4$" BHCS Torx w/ $1/4$" Nylon Washers

**Sensory Play**

## 214441 Vivo™ Metallophone

Sheet 3 of 3

Document #23207100

# Sensory Play 214441 Vivo™ Metallophone

**landscape structures®**

## Parts List

| Part# | Description | Qty. |
|---|---|---|
| 211013 | Metallophone Tube Base, Specify Color | 1 |
| 211018 | Metallo Tube Permalene Bottom, Specify Color | 1 |
| 211030 | Metallo Tube Permalene Top, Specify Color | 1 |
| 213638 | Metallophone Leg, (DB), Specify Color | 2 |
| 211033 | Metallophone Leg, (SM), Specify Color | 2 |
| 215141 | Mallet Cradle Bracket, Specify Color | 1 |
| 215142 | Mallet Cradle Permalene Top, Specify Color | 1 |
| 215735 | Mallet Cradle Permalene Bottom, Specify Color | 1 |
| | | |
| **218900** | **Vivo™ Chimes Kit** | 1 |
| 204303 | Low C Tube, 32 5/8" | 1 |
| 204304 | Low D Tube, 30 11/16" | 1 |
| 204305 | Low E Tube, 29" | 1 |
| 204306 | Low F Tube, 28 3/16" | 1 |
| 204307 | Low G Tube, 26 5/8" | 1 |
| 204308 | Low A Tube, 25 1/8" | 1 |
| 204309 | Low B Tube, 23 11/16" | 1 |
| 204310 | Middle C Tube, 23" | 1 |
| 204311 | High D Tube, 21 11/16" | 1 |
| 204312 | High E Tube, 20 1/2" | 1 |
| 204313 | High F Tube, 19 13/16" | 1 |
| 204314 | High G Tube, 18 11/16" | 1 |
| 204315 | High A Tube, 17 5/8" | 1 |
| 204316 | High B Tube, 16 5/8" | 1 |
| 204317 | High C Tube, 16 3/16" | 1 |
| 220677 | Mallet Assembly, Black | 1 |
| 220676 | Mallet Assembly, Grey | 1 |
| **232115** | **Animato™/Vivo™ Chimes Hardware Package** | 1 |
| 211443 | Node Block w/Insert | 66 |
| 162374 | $^1/_4$" x $^3/_4$" BHCS w/Pin, SST | 66 |
| 100364 | $^1/_4$" SAE Flat Washer, SST | 66 |
| 212291 | Node Spring Pin Cap | 66 |
| 228545 | Music Belt Wedge | 4 |
| 216761 | #14 x 1" BHCS (Torx), SST | 26 |
| 216762 | #14 x 1 $^1/_4$" BHCS (Torx), SST | 37 |
| 100365 | $^3/_8$" SAE Flat Washer, SST | 11 |
| 100196 | $^3/_8$" x $^7/_8$" BHCS (Torx), SST | 9 |
| 100353 | $^3/_8$" Flange Nut w/Pin, SST | 7 |
| 100321 | $^3/_8$" Hex Patch Nut, SST | 3 |
| 216777 | $^1/_4$" Hex Nut, SST | 66 |
| 127463 | T-27 TPP Hex Bit (Torx), SST | 1 |
| 100611 | $^1/_4$" x $^3/_8$" Drive Rivet, AL/SST | 5 |
| 133368 | $^1/_4$" Nylon Washers | 62 |
| | | |
| **121348** | **4-Hole Surface Mount Hardware Package** | 2 |
| 100266 | $^1/_2$" x 2 $^3/_4$" Standard Hex Nut, SST | 8 |
| 100322 | $^1/_2$" Standard Hex Nut, SST | 8 |
| 100363 | $^1/_2$" Flat Washer, SST | 8 |

**DB = Direct Bury**
**SM = Surface Mount**

## Specifications

| | |
|---|---|
| **Tube Base:** | Weldment comprised of 3.500" (88,9 mm) O.D. RS20 (.125")(3,17 mm) wall galvanized steel tubing, and $^1/_4$" (6,35 mm) thick HRPO steel sheet. Finish: ProShield®, color specified. |
| **Bar Top & Bottom:** | Permalene®, color specified. |
| **Leg:** | Weldment comprised of 3.500" (88,9 mm) O.D. RS20 (.125")(3,17 mm) wall galvanized steel tubing. Finish: ProShield®, color specified. |
| **Tubes:** | Made from 1.250" (31,75 mm) diameter (.125") (3,17 |

mm) wall aluminum tube.

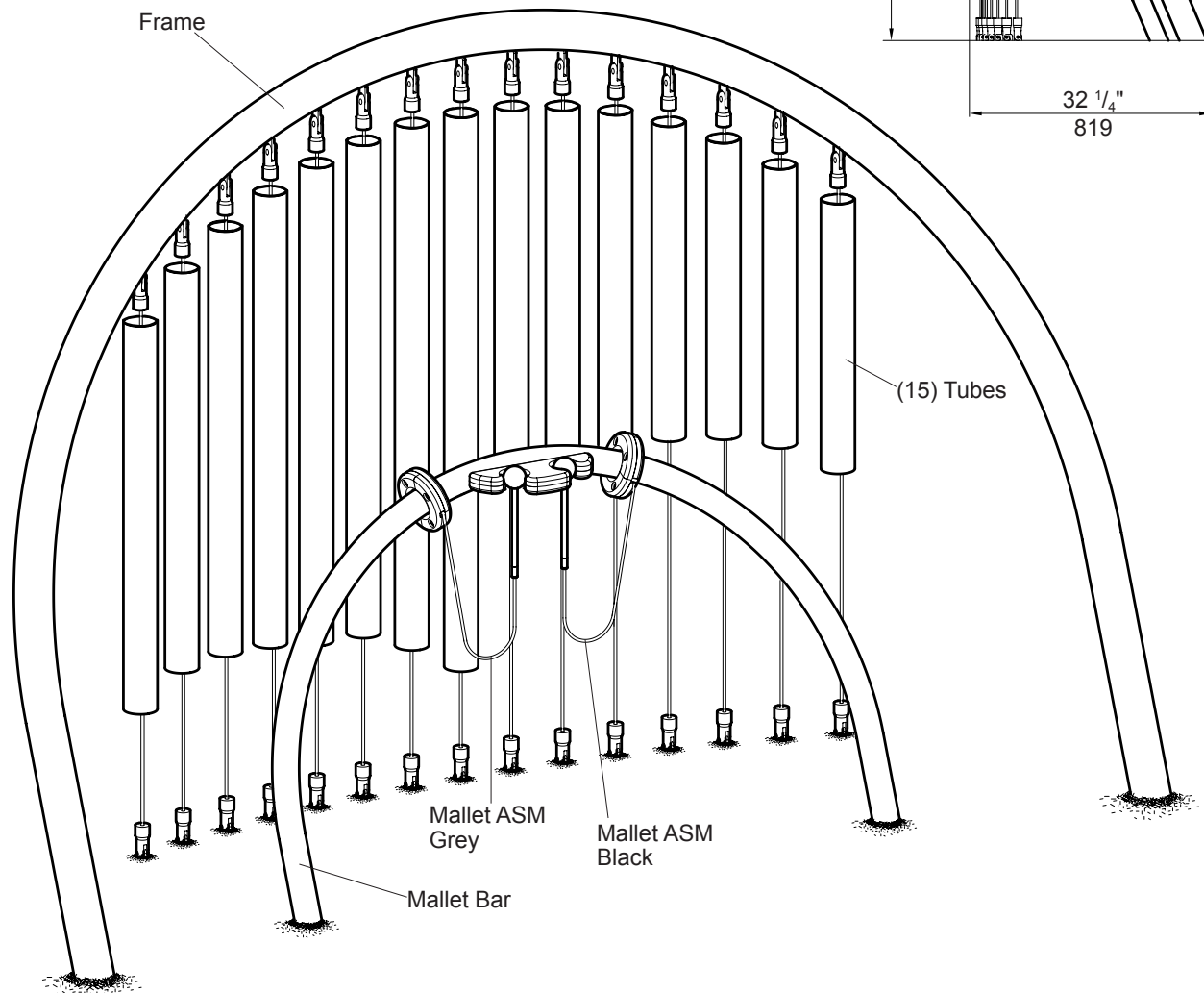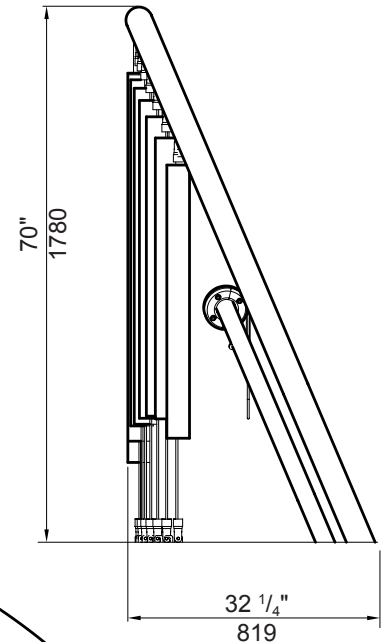| | |
|---|---|
| **Cradle Bracket:** | Made from $^1/_4$" (6,35 mm) thick HRPO steel sheet. Finish: ProShield®, color specified. |
| **Cradle Top & Bottom:** | Permalene®, color specified. |
| **Mallet:** | Comprised of 2" (50,8 mm) diameter grey & black polyurethane, $^1/_2$" (12,7 mm) diameter aluminum handle and $^3/_{16}$" (4,74 mm) diameter stainless steel cable with nylon coating. |
| **Fasteners:** | Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications). |
| **Installation Time:** | **DB** - Approx. 8 man hours<br>**SM** - Approx. 6 man hours |
| **Concrete Req.:** | Approx. 3.56 cu. ft. |
| **Weight:** | **DB** - 235 lbs.<br>**SM** - 222 lbs. |

## Installation Instructions

1) **(Direct Bury)** Dig footings as shown.

2) Insert metallophone legs into bar base tubes. Measurement from center to center of each leg should be 59" (1500 mm). With legs in correct position, drill through holes in bar base tubes and into metallophone legs with a $^1/_4$" or "F" (only) drill bit. Insert $^1/_4$" x $^3/_8$" drive rivets into holes and hammer rivet pins in until flush with head. Refer to sheet 2.

3) **(Direct Bury)** Place metallophone legs into footing holes. With metallophone legs propped in plumb and final position, pour concrete footings. Allow concrete footings to cure for a minimum of 24 hours before completing assembly. **NOTE:** *See back of sheet 1 for an example of Vivo Metallophone assembly propped in final position.*

   **(Surface Mount)** With metallophone legs in plumb position, drill $^1/_2$" x 3" deep holes through metallophone leg plates using hammer drill and $^1/_2$" masonry bit. Tap expansion anchors into drilled holes. Fasten metallophone leg plates to expansion anchors using $^1/_2$" standard hex nuts with $^1/_2$" flat washers.

4) Place node spring caps on each end of tube pins. Attach tubes and mallets to tube base as shown. Refer to the Tube Assembly Detail.

5) Attach cradle bracket to tube base. Refer to the Cradle Bracket Attachment Detail.

6) Attach metallo tube Permalene bottom to tube base. Refer to the Permalene® Bottom Attachment Detail.

7) Attach mallet cradles to cradle bracket, as shown. Refer to the Mallet Cradle Assembly Detail.

8) Attach metallo bar Permalene top to metallophone tube base, as shown. Refer to the Metallo Tube Permalene Top Attachment Detail.

landscape
structures®

216986

**ELEVATION**
**(SIDE VIEW)**

70"
1780

32 ¹/₄"
819

Frame

(15) Tubes

Mallet ASM
Grey

Mallet ASM
Black

Mallet Bar

**Sensory Play**

**214442 Grandioso™ Chimes**

Document #23206300

**landscape structures®**

ISO 14001 CERTIFIED

ISO 9001 Certified

28 ¹/₈" 714
23 ³/₄" 603
3 ¹/₄" 83
20 ³/₄" 527
24" 610
53" 1346
82" 2083
85 ¹/₄" 2165
106" 2692

Frame

9" 230 Min.

15 ⁵/₈" 403

15 ⁵/₈" 403

Mallet Bar

3 ¹/₄" 82

3 ¹/₄" 82

String Line

## DETAIL
### DIRECT BURY

Finished Grade

Loose Fill Protective Surfacing

Subgrade

(7) Footers

Concrete

Crushed Rock

34" 860

20" Min. 510

14" 360

## DETAIL
### SURFACE MOUNT

(20) ¹/₂" Standard Hex Nuts w/ ¹/₂" Flat Washers

(20) ¹/₂" x 2 ³/₄" Expansion Anchors

Concrete Slab

Crushed Rock

Frame, Mallet Bar & Base Tab Plate

**Sensory Play**

## 214442 Grandioso™ Chimes

# landscape structures®

**ISO 14001 CERTIFIED**  **ISO 9001 Certified**

**NOTE: Middle & end plates are used to ensure base tab plate is in-line with frame. Plates must be plumb. After concrete has cured for 24 hours, remove and discard plates.**
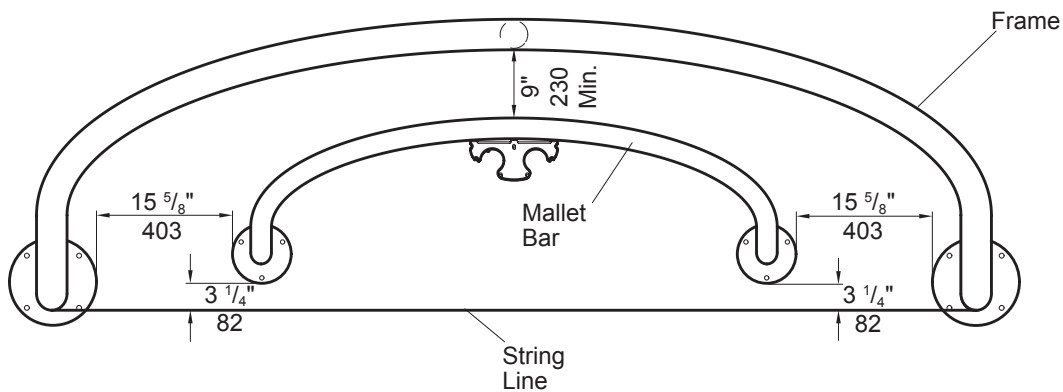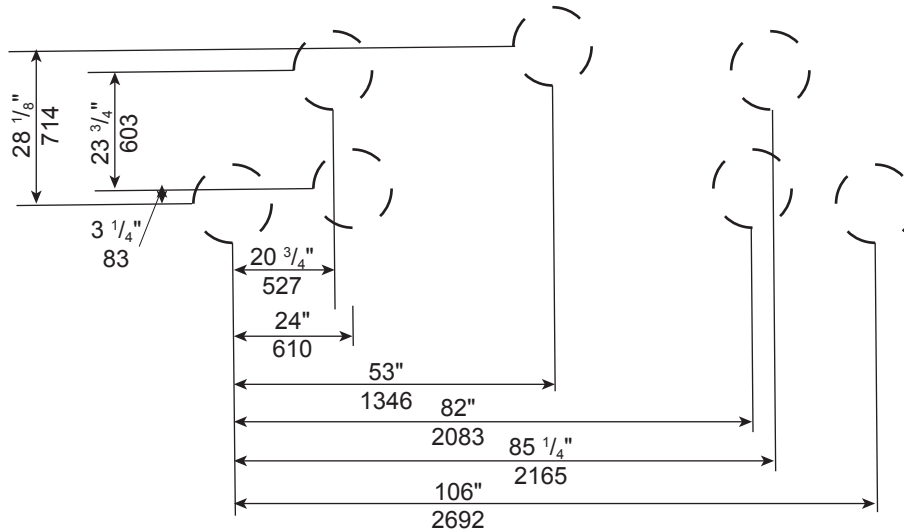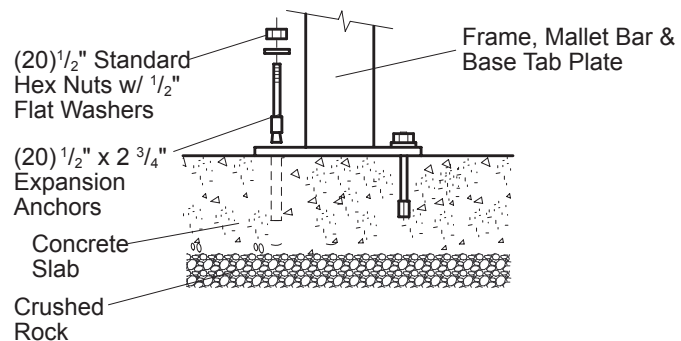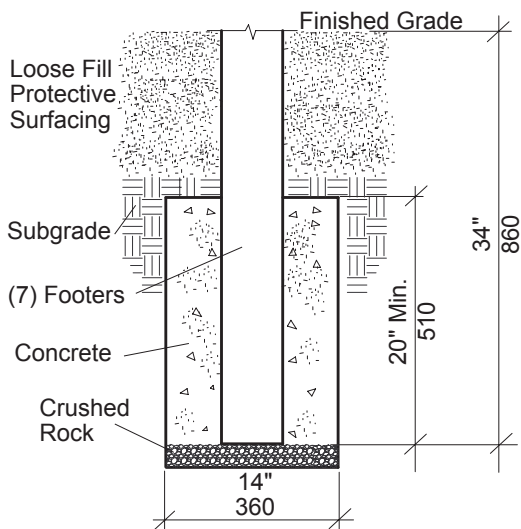
## DETAIL
### FOOTER ATTACHMENT



Middle Plate

(2) End Plates

Mallet Bar

(6) $3/8$" x $7/8$" BHCS w/Pin (With Gray Anti-Seize)

(6) $3/8$" Standard Hex Nuts

Frame

BaseTab Plate

(3) Footer B

(2) Footer C

(2) Footer A

(14) $3/8$" x 1 $1/8$" BHCS w/Pin w/ $3/8$" Flat Washers

Frame & Mallet Bar

(2) Footer A & (2) Footer C

(14) $3/8$" Standard Hex Nuts w/ $3/8$" Flat Washers

(6) $3/8$" x 1 $1/8$" BHCS w/Pin w/ $3/8$" Flat Washers

Base Tab Plate

(6) $3/8$" Standard Hex Nuts w/ $3/8$" Flat Washers

(3) Footer B

**Sensory Play**

## 214442 Grandioso™ Chimes

Sheet 2 of 4
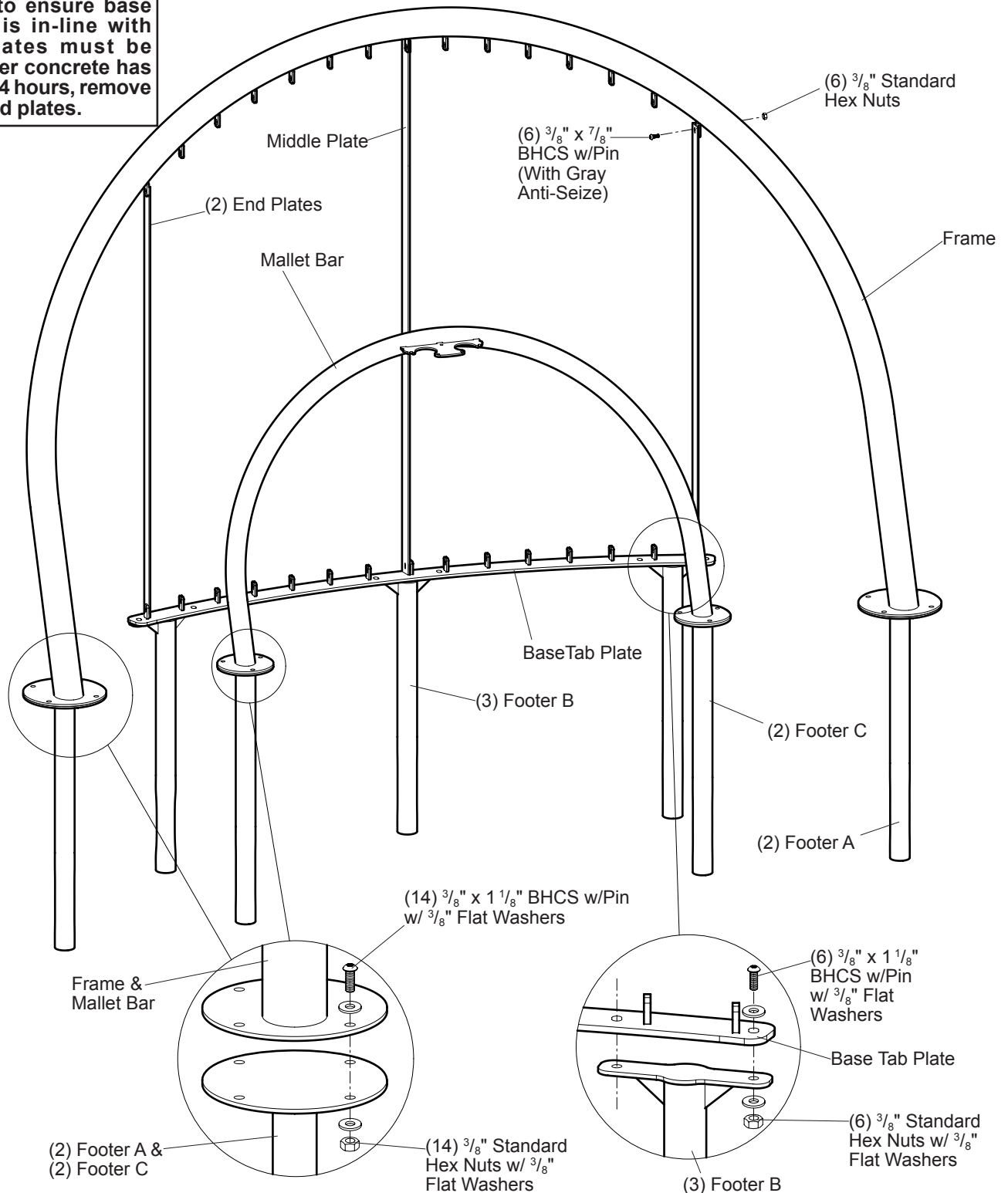
# DETAIL
## PROPPED IN FINAL POSITION



**NOTE: Picture shown is an example of how to prop the frame and mallet bar in final position, using 2 x 4 boards and wooden stakes, prior to pouring concrete footings.**

**Sensory Play**

# 214442 Grandioso™ Chimes

| ITEM NO. | PART# | DESCRIPTION |
|---|---|---|
| 2 | 204333 | LOW C TUBE 51 1/2" |
| 3 | 204334 | LOW D TUBE 48 1/2" |
| 4 | 204335 | LARGE LOW E TUBE 45 13/16" |
| 5 | 204336 | LARGE LOW F TUBE 45 1/2" |
| 6 | 204337 | LARGE LOW G TUBE 42" |
| 7 | 204338 | LARGE LOW A TUBE 39 5/8" |
| 8 | 204339 | LOW B TUBE 37 3/16" |
| 9 | 204340 | MIDDLE C TUBE 36 3/16" |
| 10 | 204341 | HIGH D TUBE 34 3/16" |
| 11 | 204342 | HIGH E TUBE 32 3/16" |
| 12 | 204343 | HIGH F TUBE 31 1/8" |
| 13 | 204344 | HIGH G TUBE 29 5/16" |
| 14 | 204345 | HIGH A TUBE 27 1/2" |
| 15 | 204346 | HIGH B TUBE 26" |
| 16 | 204347 | HIGH C TUBE 25 1/8" |
| 17 | 213103 | HIGH C, TOP CABLE 6 11/16" |
| 18 | 213105 | HIGH B, TOP CABLE 7 1/8" |
| 19 | 213119 | HIGH C, BOT CABLE 27 5/8" |
| 20 | 213120 | HIGH B, BOT CABLE 30 9/16" |
| 21 | 213106 | HIGH A, TOP CABLE 7 9/16" |
| 22 | 213112 | LOW B, TOP CABLE 9 5/8" |
| 23 | 213113 | LOW A, TOP CABLE 10 5/16" |

| 24 | 213110 | HIGH D, TOP CABLE 9 5/16" |
|---|---|---|
| 25 | 213109 | HIGH E, TOP CABLE 8 7/8" |
| 26 | 213108 | HIGH F, TOP CABLE 8 9/16" |
| 27 | 213107 | HIGH G, TOP CABLE 8 1/8" |
| 28 | 213122 | HIGH G, BOT CABLE 32 15/16" |
| 29 | 213123 | HIGH F, BOT CABLE 33 1/8" |
| 30 | 213121 | HIGH A, BOT CABLE 32 1/8" |
| 31 | 213111 | MID C, TOP CABLE 9 1/4" |
| 32 | 213114 | LOW G, TOP CABLE 10 15/16" |
| 33 | 213115 | LOW F, TOP CABLE 11 9/16" |
| 34 | 213116 | LOW E, TOP CABLE 11 15/16" |
| 35 | 213117 | LOW D TOP CABLE 12 9/16" |
| 36 | 213118 | LOW C, TOP CABLE 13 1/4" |
| 37 | 213124 | HIGH E, BOT CABLE 33 7/16" |
| 38 | 213125 | HIGH D, BOT CABLE 32 1/2" |
| 39 | 213126 | MID C, BOT CABLE 19 1/16" |
| 40 | 213127 | LOW B, BOT CABLE 21 13/16" |
| 41 | 213128 | LOW A, BOT CABLE 22 3/4" |
| 42 | 213129 | LOW G, BOT CABLE 23" |
| 43 | 213130 | LOW F, BOT CABLE 22 3/4" |
| 44 | 213131 | LOW E, BOT CABLE 22 7/8" |
| 45 | 213132 | LOW D, BOT CABLE 21 7/16" |
| 46 | 213133 | LOW C, BOT CABLE 19 1/4" |



**DETAIL**
CABLE MEASUREMENT

Length Of Cable
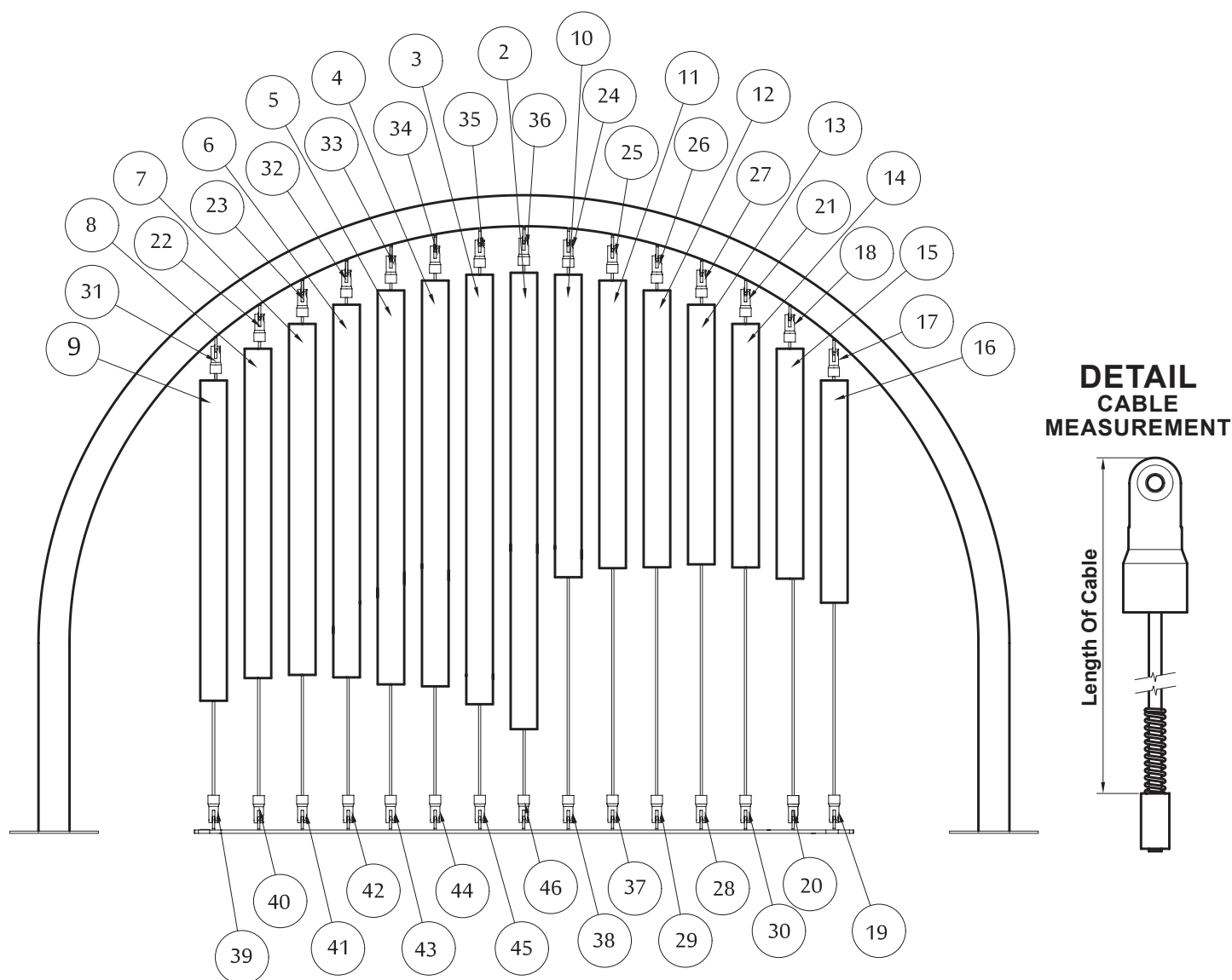
**Sensory Play**

**214442 Grandioso™ Chimes**

Sheet 3 of 4

Document #23206300

216986b

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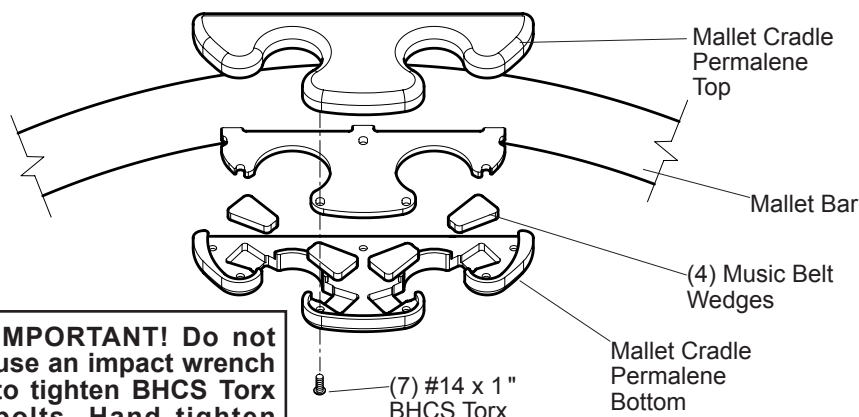**NOTE: There are two holes in base plate tabs & frame tabs. To increase tension in cable, attach cable to top hole in frame tab & bottom hole in base plate tab if necessary.**
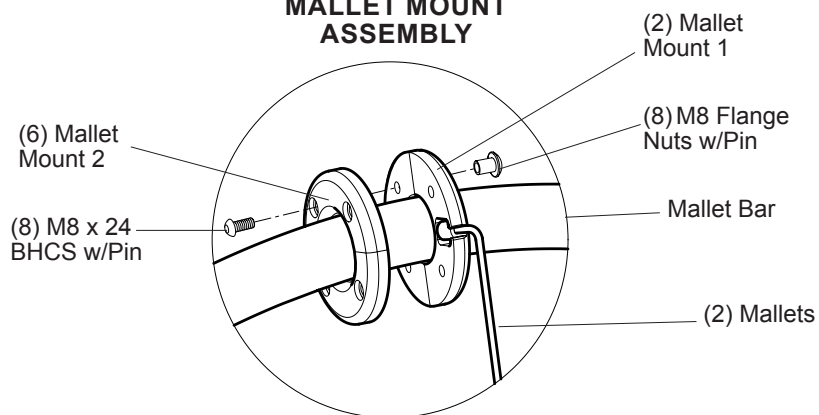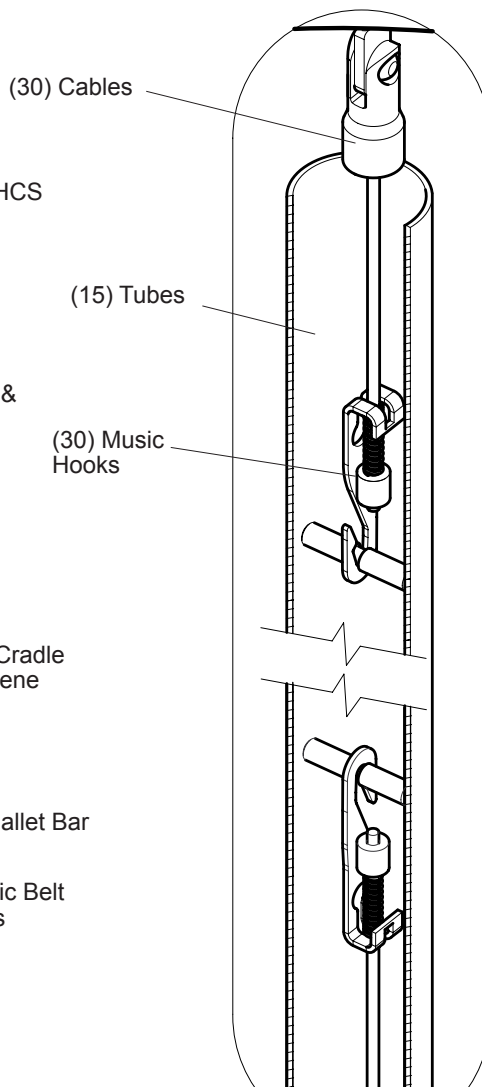
## DETAIL
### CABLE ATTACHMENT
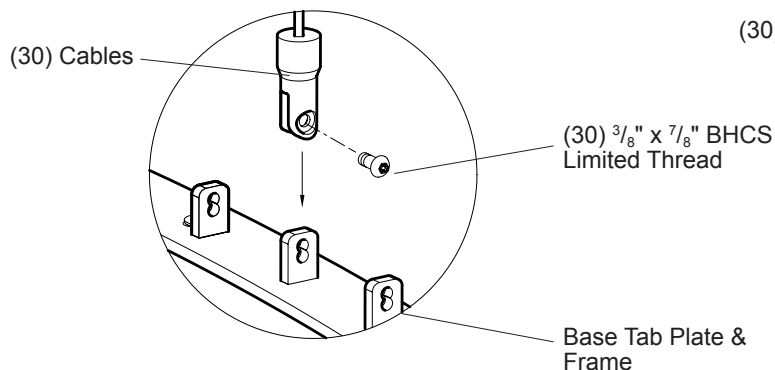


(30) Cables

(30) $^3/_8$" x $^7/_8$" BHCS Limited Thread

Base Tab Plate & Frame

## DETAIL
### MALLET CRADLE ASSEMBLY



Mallet Cradle Permalene Top

Mallet Bar

(4) Music Belt Wedges

Mallet Cradle Permalene Bottom

(7) #14 x 1 " BHCS Torx

**IMPORTANT! Do not use an impact wrench to tighten BHCS Torx bolts. Hand tighten only.**

## DETAIL
### MALLET MOUNT ASSEMBLY



(2) Mallet Mount 1

(8) M8 Flange Nuts w/Pin

(6) Mallet Mount 2

(8) M8 x 24 BHCS w/Pin

Mallet Bar

(2) Mallets

## DETAIL
### TUBE SECTION VIEW



(30) Cables

(15) Tubes

(30) Music Hooks

**NOTE: For ease of installation, insert low/bottom cable with music hook through top of tube and attach music hook to middle of tube shaft. Turn tube 180º and insert top/high cable with music hook through top of tube and attach music hook to middle of tube shaft. Attach cable to base tab plate and frame.**

**Sensory Play**

# 214442 Grandioso™ Chimes

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## Parts List

| Part# | Description | Qty. |
|---|---|---|
| 209877 | Frame, Specify Color | 1 |
| 213664 | Base/Tab Plate, Specify Color | 1 |
| 213678 | Mallet Bar, Specify Color | 1 |
| 213341 | Mallet Mount 2, Specify Color | 6 |
| 213934 | Mallet Mount 1, Specify Color | 2 |
| 213668 | Footer A, Specify Color | 2 |
| 213672 | Footer B, Specify Color | 3 |
| 213696 | Footer C, Specify Color | 2 |
| 215142 | Mallet Cradle Permalene Top, Specify Color | 1 |
| 215735 | Mallet Cradle Permalene Bottom, Specify Color | 1 |
| 216121 | End Plate | 2 |
| 216122 | Middle Plate | 1 |
| **218901** | **Grandioso Chimes Kit** | **1** |
| 204333 | Low C Tube | 1 |
| 204334 | Low D Tube | 1 |
| 204335 | Low E Tube | 1 |
| 204336 | Low F Tube | 1 |
| 204337 | Low G Tube | 1 |
| 204338 | Low A Tube | 1 |
| 204339 | Low B Tube | 1 |
| 204340 | Middle C Tube | 1 |
| 204341 | High D Tube | 1 |
| 204342 | High E Tube | 1 |
| 204343 | High F Tube | 1 |
| 204344 | High G Tube | 1 |
| 204345 | High A Tube | 1 |
| 204346 | High B Tube | 1 |
| 204347 | High C Tube | 1 |
| 213111 | Mid C Top Cable, | 1 |
| 213112 | Low B Top Cable | 1 |
| 213113 | Low A Top Cable | 1 |
| 213114 | Low G Top Cable | 1 |
| 213115 | Low F Top Cable | 1 |
| 213116 | Low E Top Cable | 1 |
| 213117 | Low D Top Cable | 1 |
| 213118 | Low C Top Cable | 1 |
| 213110 | High D Top Cable | 1 |
| 213109 | High E Top Cable | 1 |
| 213108 | High F Cable | 1 |
| 213107 | High G Cable | 1 |
| 213106 | High A Cable | 1 |
| 213105 | High B Cable | 1 |
| 213103 | High C Cable | 1 |
| 213119 | High C Low Cable | 1 |
| 213120 | High B Low Cable | 1 |
| 213121 | High A Low Cable | 1 |
| 213122 | High G Low Cable | 1 |
| 213123 | High F Low Cable | 1 |
| 213124 | High E Low Cable | 1 |
| 213125 | High D Low Cable | 1 |
| 213126 | Mid C Low Cable | 1 |
| 213127 | Low B Bottom Cable | 1 |
| 213128 | Low A Bottom Cable | 1 |
| 213129 | Low G Bottom Cable | 1 |
| 213130 | Low F Bottom Cable | 1 |
| 213131 | Low E Bottom Cable | 1 |
| 213132 | Low D Bottom Cable | 1 |
| 213133 | Low C Bottom Cable | 1 |
| 220677 | Mallet Assembly, Black | 1 |
| 220676 | Mallet Assembly, Grey | 1 |
| **121348** | **4-Hole Surface Mount Hardware Package** | **2** |
| 100266 | $^1/_2$" x 2 $^3/_4$" Standard Hex Nut, SST | 8 |
| 100322 | $^1/_2$" Standard Hex Nut, SST | 8 |
| 100363 | $^1/_2$" Flat Washer, SST | 8 |
| **118613** | **3-Hole Surface Mount Hardware Package** | **2** |
| 100266 | $^1/_2$" x 2 $^3/_4$" Standard Hex Nut, SST | 6 |
| 100322 | $^1/_2$" Standard Hex Nut, SST | 6 |
| 100363 | $^1/_2$" Flat Washer, SST | 6 |

| Part# | Description | Qty. |
|---|---|---|
| **111392** | **2-Hole Surface Mount Hardware Package** | **3** |
| 100266 | $^1/_2$" x 2 $^3/_4$" Standard Hex Nut, SST | 6 |
| 100322 | $^1/_2$" Standard Hex Nut, SST | 6 |
| 100363 | $^1/_2$" Flat Washer, SST | 6 |
| **232116** | **Grandioso Hardware Package** | **1** |
| 100290 | $^3/_8$" x $^7/_8$" BHCS w/Pin Limited Thread, SST | 30 |
| 192071 | M8 x 24 BHCS w/Pin, SST | 8 |
| 192064 | M8 Flange Nut w/Pin, SST | 8 |
| 127546 | $^3/_8$" x $^7/_8$" BHCS w/Pin, SST | 6 |
| 100327 | $^3/_8$" Standard Hex Nut, SST | 6 |
| 216761 | #14 x 1" BHCS Torx, SST | 7 |
| 228545 | Music Belt Wedge | 4 |
| 127463 | T-27 TPP Hex Bit (Torx), SST | 1 |
| 210159 | Music Hook | 30 |
| **217156** | **DB Footers Hardware Package** | **1** |
| 100198 | $^3/_8$" x 1 $^1/_8$" BHCS w/Pin, SST | 20 |
| 100327 | $^3/_8$" Standard Hex Nut, SST | 20 |
| 100362 | $^3/_8$" Flat Washer, SST | 40 |

**DB = Direct Bury**
**SM = Surface Mount**

## Specifications

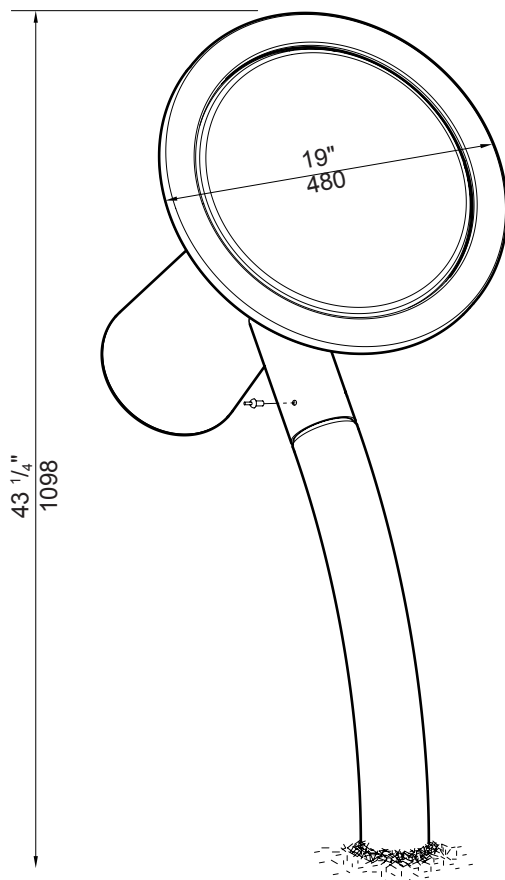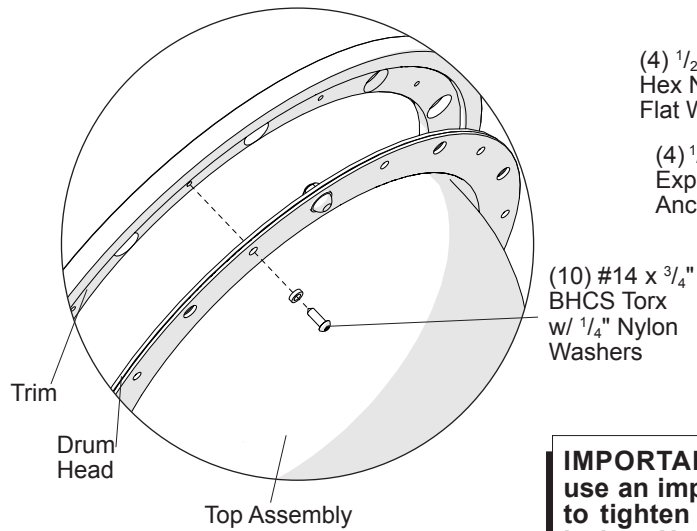| | |
|---|---|
| **Tube:** | Comprised of 3.000" (76,2 mm) O.D. x (.125")(3,17 mm) wall aluminum tubing, and $^1/_2$" (12,7 mm) diameter aluminum rod. |
| **Frame:** | Weldment comprised of 3.500" (88,9 mm) O.D. RS20 (.125")(3,17 mm) wall galvanized steel tubing, $^1/_4$" stainless steel sheet and $^1/_4$" (6,35 mm) thick HRPO steel sheet. Finish: ProShield®, color specified. |
| **Mallet:** | Comprised of 2" (50,8 mm) diameter grey or black polyurethane, $^1/_2$" (12,7 mm) diameter aluminum handle and $^3/_{16}$" (4,74 mm) stainless steel cable with nylon coating. |
| **Base/Tab Plate:** | Weldment comprised of $^3/_8$" (9,52 mm) thick HRPO steel sheet, and $^1/_4$" (6,35 mm) thick stainless steel sheet. Finish: ProShield®, color specified. |
| **Mallet Bar:** | Weldment comprised of 2.375" (60,32 mm) O.D. RS40 (.130"-.140")(3,30 mm-3,55 mm) wall galvanized steel tubing, and $^1/_4$" (6,35 mm) thick HRPO steel sheet. Finish: ProShield®, color specified. |
| **Mallet Mount:** | Permalene®, color specified. |
| **Footer:** | Weldment comprised of 2.375" (60,32 mm) O.D. RS20 (.095"-.105")(2,41 mm-2,66 mm) wall galvanized steel tubing, and $^1/_4$" (6,35 mm) thick HRPO steel sheet. Finish: ProShield®, color specified. |
| **Cables:** | Comprised of $^3/_{16}$" (4,74 mm) diameter stainless steel cable with nylon coating. |
| **Music Hook:** | Fabricated from 7 GA. (.188")(4,77 mm) stainless steel. |
| **Cradle Top & Bottom:** | Permalene®, color specified. |
| **Fasteners:** | Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications). |
| **Installation Time:** | **DB** - Approx. 8 man hours<br>**SM** - Approx. 6 man hours |
| **Concrete Req.:** | **DB** - Approx. 13.09 cu. ft. |
| **Weight:** | **DB** - 424 lbs.<br>**SM** - 361 lbs. |

ECO # 0101138 Document 23206300 replaces 22177600. Updated belt part number.
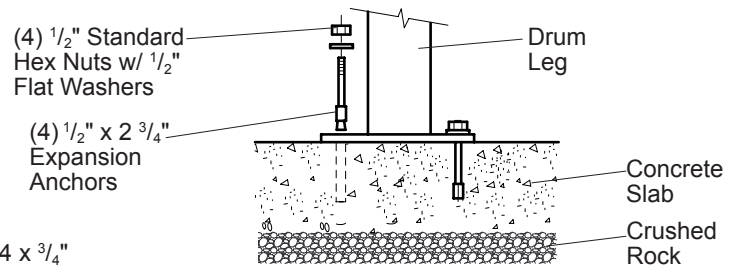
## Installation Instructions

1) **(Direct Bury)** Dig footings as shown. Refer to the Plan View Footing Layout.

2) **(Direct Bury)** Attach footers to base tab plate, frame and mallet bar. Place base tab plate, frame and mallet bar in footing holes. Refer to the Footer Attachment Detail.

3) Attach middle and end plates to frame and base tab plate. Make sure plates are plumb. Refer to the Footer Attachment Detail. **NOTE:** *Middle & end plates are used to ensure base tab plate is in-line with frame. Plates must be plumb After concrete has cured for 24 hours, remove and discard plates.*

4) Following the dimensions shown on the back of sheet 1, place mallet bar and frame in final position. **NOTE:** *See back of sheet 2 for an example of frame and mallet bar propped in final position.*

5) **(Direct Bury)** With base tab plate, frame and mallet bar footers propped in plumb and final position, pour concrete footings. Allow concrete footings to cure for a minimum of 24 hours before completing assembly.

   **(Surface Mount)** With base tab plate, frame and mallet bar in final position, drill $1/2$" x 3" deep holes through leg plates using hammer drill and $1/2$" masonry bit. Starting at the center of the tab plate, tap expansion anchors into drilled holes. Fasten base tab plate, frame and mallet bar to expansion anchors using $1/2$" standard hex nuts with $1/2$" flat washers.

6) Following the details on the back of sheet 3, complete the Grandioso chimes assembly. Refer to sheet 3 for correct positioning of tubes and cables with music hooks.
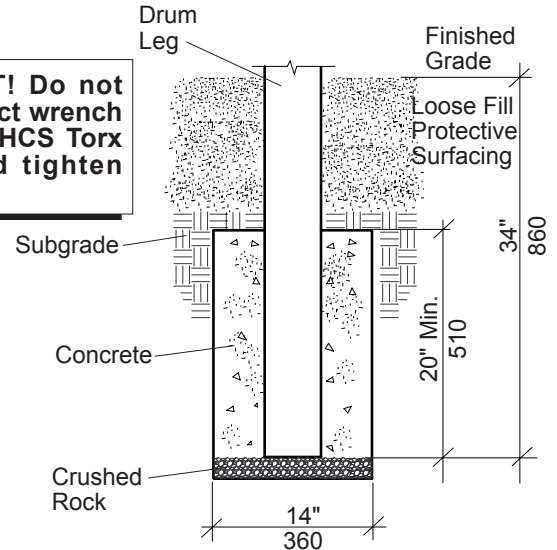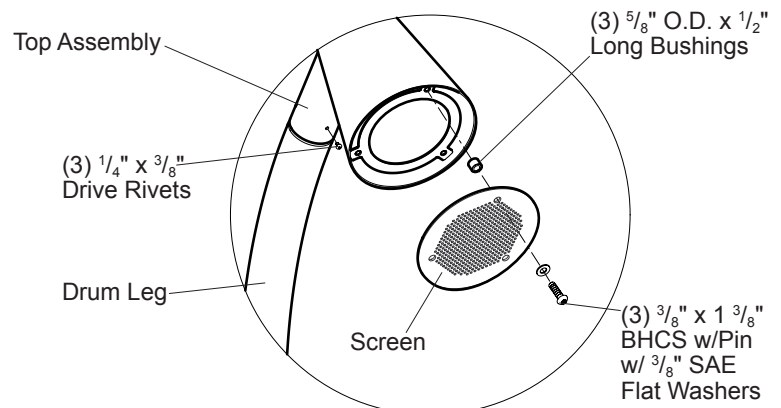
216988

## DETAIL
### DRUM ASSEMBLY

Trim

Drum Head

Top Assembly

(10) #14 x $^3/_4$" BHCS Torx w/ $^1/_4$" Nylon Washers

## DETAIL
### SURFACE MOUNT

(4) $^1/_2$" Standard Hex Nuts w/ $^1/_2$" Flat Washers

(4) $^1/_2$" x 2 $^3/_4$" Expansion Anchors

Drum Leg

Concrete Slab

Crushed Rock

## DETAIL
### DIRECT BURY

Drum Leg

Finished Grade

Loose Fill Protective Surfacing

Subgrade

Concrete

34" 860

20" Min. 510

Crushed Rock

14" 360

**IMPORTANT! Do not use an impact wrench to tighten BHCS Torx bolts. Hand tighten only.**

19" 480

43 $^1/_4$" 1098

## DETAIL
### SCREEN ATTACHMENT

Top Assembly

(3) $^5/_8$" O.D. x $^1/_2$" Long Bushings

(3) $^1/_4$" x $^3/_8$" Drive Rivets

Drum Leg

Screen

(3) $^3/_8$" x 1 $^3/_8$" BHCS w/Pin w/ $^3/_8$" SAE Flat Washers

**Sensory Play**

## 214443 Goblet Drum

Document #23931900

**landscape structures®**

## Parts List

| Part# | Description | Qty. |
|---|---|---|
| 213936 | Drum Leg, (DB), Specify Color | 1 |
| 204402 | Drum Leg, (SM), Specify Color | 1 |
| 239315 | Goblet Drum Top Assembly, Specify Color | 1 |
| 204398 | Permalene Trim, Specify Color | 1 |
| 210433 | 8" Drum Screen, Specify Color | 1 |
| **239317** | **Goblet/Kundu Drum Hardware Package** | **1** |
| 216760 | #14 x $^3/_4$" BHCS Torx, SST | 10 |
| 113027 | $^3/_8$" x 1 $^3/_8$" BHCS w/Pin, SST | 3 |
| 100365 | $^3/_8$" SAE Flat Washer, SST | 3 |
| 133368 | $^1/_4$" Nylon Washer, SST | 10 |
| 156962 | $^5/_8$" O.D. x $^1/_2$" Long, SST | 3 |
| 127463 | T-27 TPP Hex Bit (Torx), SST | 1 |
| 100611 | $^1/_4$" x $^3/_8$" Drive Rivet, AL/SST | 3 |
| **121348** | **4-Hole Surface Mount Hardware Package** | **1** |
| 100266 | $^1/_2$" x 2 $^3/_4$" Standard Hex Nut, SST | 4 |
| 100322 | $^1/_2$" Standard Hex Nut, SST | 4 |
| 100363 | $^1/_2$" Flat Washer, SST | 4 |

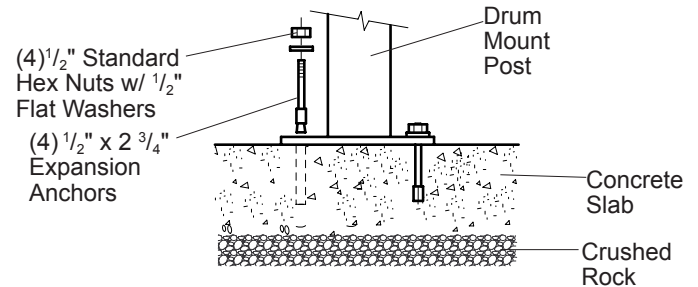**DB = Direct Bury**
**SM = Surface Mount**

## Specifications

**Drum Leg:** Made from 3.500" (88,9 mm) O.D. RS20 (.125")(3,17 mm) wall galvanized steel tubing. Finish: ProShield®, color specified.

**Top Assembly:** Weldment comprised of 3.500" (88,9 mm) O.D. RS20 (.125")(3,17 mm) wall galvanized steel tubing, 11 GA. (.120")(3,05 mm) flat steel and $^1/_8$" (3,17 mm) thick HRPO steel sheet. Finish: ProShield®, color specified.

**Trim:** Permalene®, color specified.

**Screen:** Made from 11 GA. (.125")(3,17 mm) thick aluminum sheet. Finish: ProShield®, color specified.

**Drum Head:** Translucent, UV stabilized polycarbonate with a matte textured surface on one side.

**Fasteners:** Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

**Installation Time:** **DB** - Approx. 3 man hours
**SM** - Approx. 2 1/2 man hours
**Concrete Req.:** **DB** - Approx. 1.78 cu. ft.
**Weight:** **DB** - 59 lbs.
**SM** - 53 lbs.

## Installation Instructions
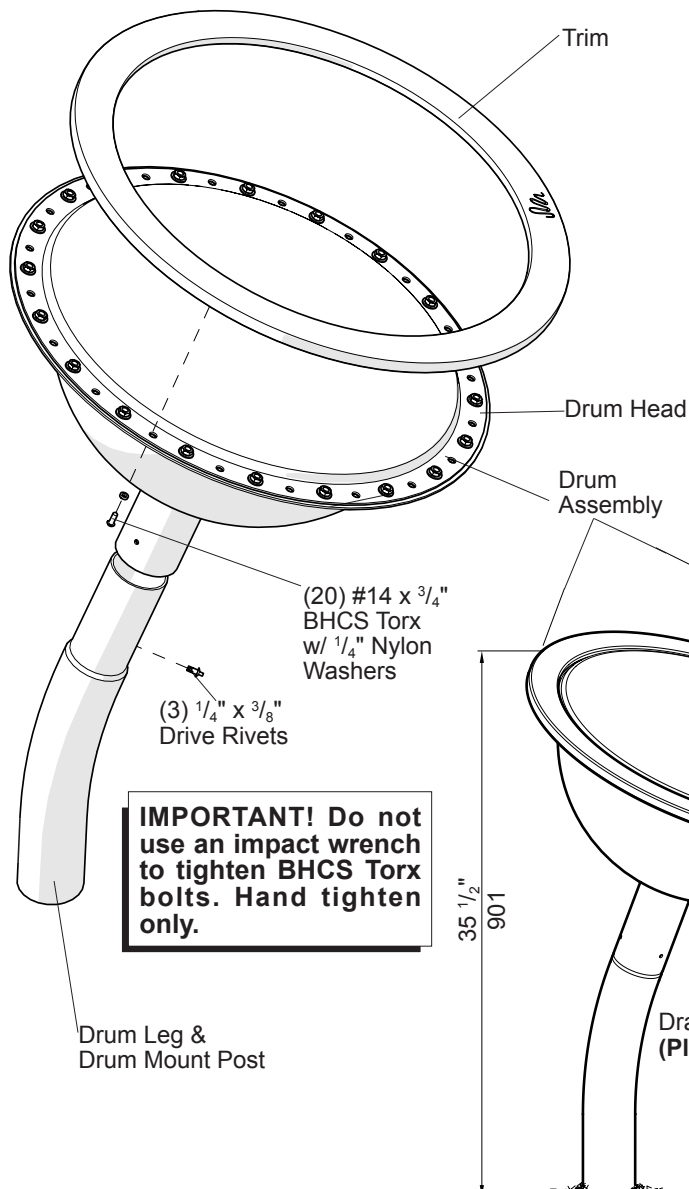
1) **(Direct Bury)** Dig footing as shown.

2) **(Direct Bury)** With lower portion of drum leg plumb and in final position, pour concrete footing. Allow concrete footing to cure for a minimum of 24 hours before attaching drum assembly, drum head and trim to drum leg.

   **(Surface Mount)** Drill $^1/_2$" x 3" deep holes through drum mount post plate using hammer drill and $^1/_2$" masonry bit. Tap expansion anchors into drilled holes. Fasten drum mount post plate to expansion anchors using $^1/_2$" standard hex nuts with $^1/_2$" flat washers.

3) Place drum onto leg. Drill through holes in drum assembly and into drum leg with a $^1/_4$" or "F" (only) drill bit. Insert $^1/_4$" x $^3/_8$" drive rivets into holes and hammer rivet pins in until flush with head.

4) Attach drum head and trim to top assembly, as shown. Refer to the Drum Assembly Detail.

5) Attach screen to drum top assembly. Refer to the Screen Attachment Detail.

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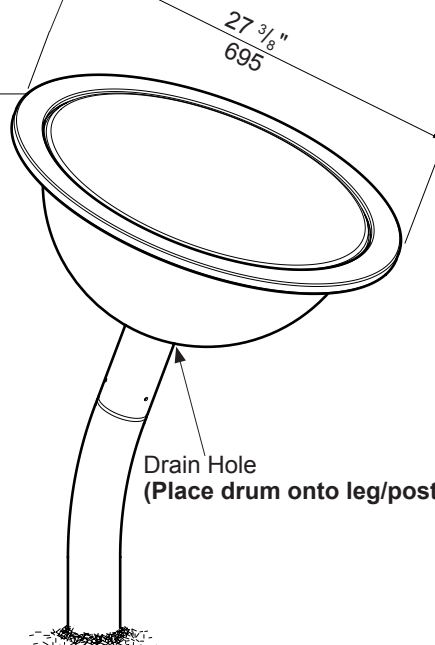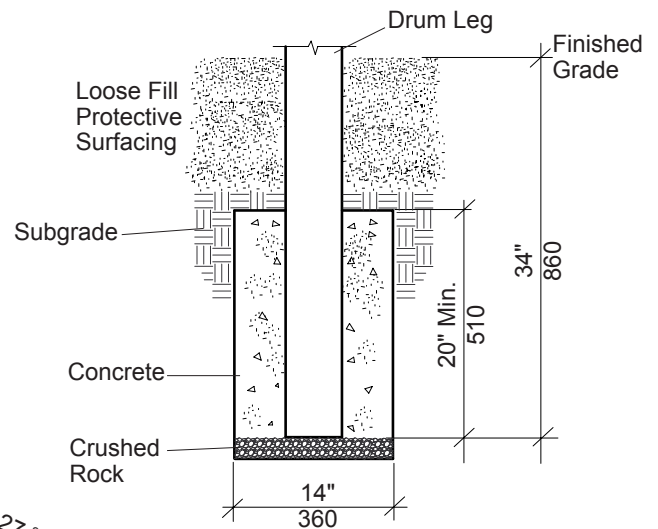
216990

## DETAIL
### SURFACE MOUNT

Drum Mount Post

(4)$^1/_2$" Standard Hex Nuts w/ $^1/_2$" Flat Washers

(4) $^1/_2$" x 2 $^3/_4$" Expansion Anchors

Concrete Slab

Crushed Rock

## DETAIL
### DRUM ASSEMBLY



Trim

Drum Head

Drum Assembly

(20) #14 x $^3/_4$" BHCS Torx w/ $^1/_4$" Nylon Washers

(3) $^1/_4$" x $^3/_8$" Drive Rivets

**IMPORTANT! Do not use an impact wrench to tighten BHCS Torx bolts. Hand tighten only.**

Drum Leg & Drum Mount Post

## DETAIL
### DIRECT BURY

Drum Leg

Finished Grade

Loose Fill Protective Surfacing

Subgrade

Concrete

Crushed Rock

34" 860

20" Min. 510

14" 360

27 $^3/_8$" 695

35 $^1/_2$" 901

Drain Hole
**(Place drum onto leg/post with drain hole at lowest point.)**

## Sensory Play

## 214445 Kettle Drum

Document #23932100

## Parts List

| Part# | Description | Qty. |
|---|---|---|
| 213935 | Kettle Drum Leg, DB, Specify Color | 1 |
| 204405 | Kettle Drum Mount Post, SM, Specify Color | 1 |
| 239314 | Kettle Drum Assembly, Specify Color | 1 |
| 204404 | Kettle Drum Permalene Trim, Specify Color | 1 |
| **239318** | **Kettle Drum Hardware Package** | 1 |
| 216760 | #14 x $^3/_4$" BHCS Torx, SST | 20 |
| 133368 | $^1/_4$" NylonWasher, SST | 20 |
| 127463 | T-27 TPP Hex Bit (Torx), SST | 1 |
| 100611 | $^1/_4$" x $^3/_8$" Drive Rivet, AL/SST | 3 |
| **121348** | **4-Hole Surface Mount Hardware Package** | 1 |
| 100266 | $^1/_2$" x 2 $^3/_4$" Standard Hex Nut, SST | 4 |
| 100322 | $^1/_2$" Standard Hex Nut, SST | 4 |
| 100363 | $^1/_2$" Flat Washer, SST | 4 |

**DB = Direct Bury**
**SM = Surface Mount**

## Specifications

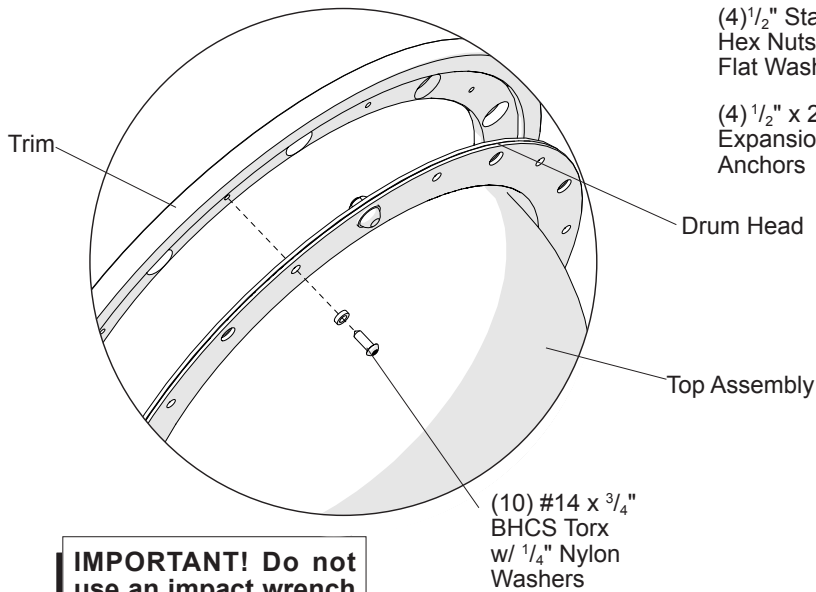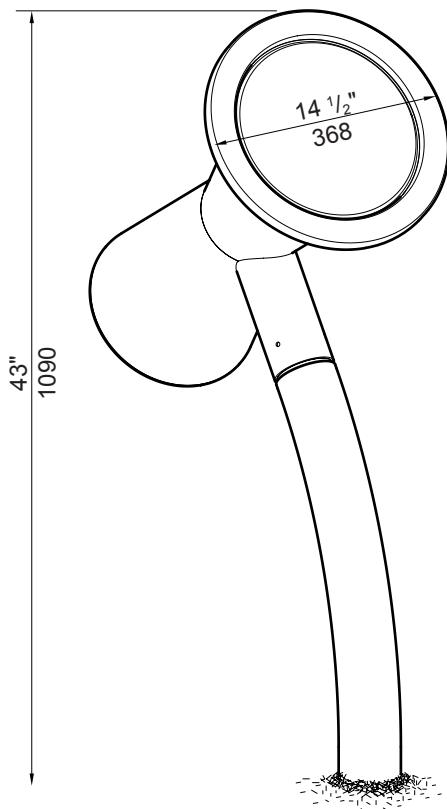| | |
|---|---|
| **Trim:** | Permalene®, color specified. |
| **Drum Leg:** | Made from 3.500" (88,9 mm) O.D. RS20 (.125")(3,17 mm) wall galvanized steel tubing. Finish: ProShield®, color specified. |
| **Drum Assembly:** | Weldment comprised of 3.500" (88,9 mm) O.D. RS20 (.125")(3,17 mm) wall galvanized steel tubing and 11 GA. (.120")(3,05 mm) flat steel. Finish: ProShield®, color specified. |
| **Drum Head:** | Translucent, UV stabilized polycarbonate with a matte textured surface on one side. |
| **Fasteners:** | Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications). |
| **Installation Time:** | **DB** - Approx. 3 man hours<br>**SM** - Approx. 2 1/2 man hours |
| **Concrete Req.:** | **DB** - Approx. 1.78 cu. ft. |
| **Weight:** | **DB** -66 lbs.<br>**SM** - 59 lbs. |

## Installation Instructions

1) **(Direct Bury)** Dig footing as shown.

2) **(Direct Bury)** With lower portion of drum leg plumb and in final position, pour concrete footing. Allow concrete footing to cure for a minimum of 24 hours before attaching drum assembly, drum head and trim to drum leg.

   **(Surface Mount)** Drill $^1/_2$" x 3" deep holes through drum mount post plate using hammer drill and $^1/_2$" masonry bit. Tap expansion anchors into drilled holes. Fasten drum mount post plate to expansion anchors using $^1/_2$" standard hex nuts with $^1/_2$" flat washers.

3) Place drum onto leg/post with drain hole at lowest point. Drill through holes in drum assembly and into drum leg/post with a $^1/_4$" or "F" (only) drill bit. Insert $^1/_4$" x $^3/_8$" drive rivets into holes and hammer rivet pins in until flush with head.

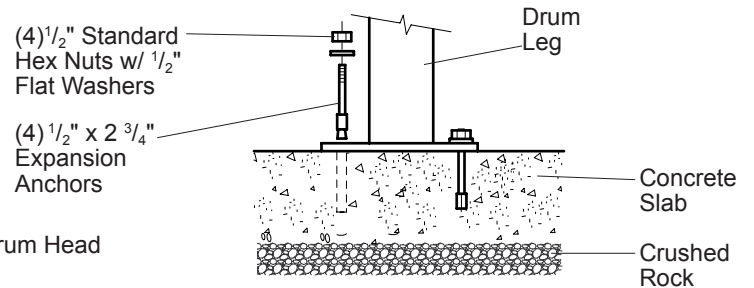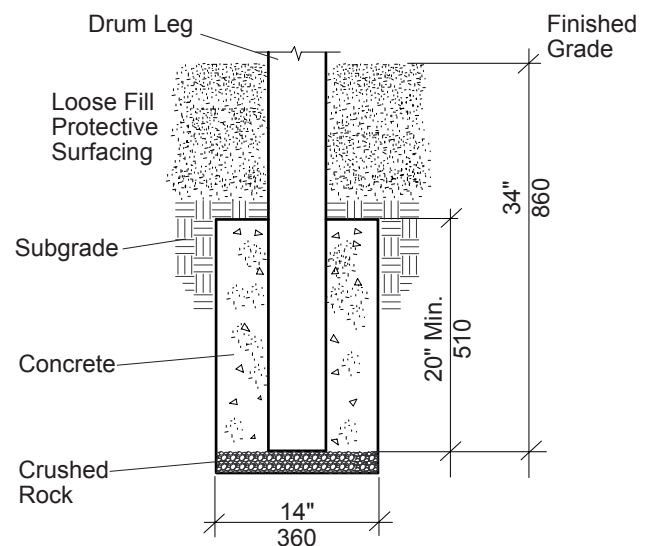4) Attach drum head and trim to drum assembly, as shown. Refer to the Drum Assembly Detail.

216989

## DETAIL
### DRUM ASSEMBLY

Trim

Drum Head

Top Assembly

(10) #14 x $^3/_4$" BHCS Torx w/ $^1/_4$" Nylon Washers

**IMPORTANT! Do not use an impact wrench to tighten BHCS Torx bolts. Hand tighten only.**

14 $^1/_2$"
368

43"
1090

## DETAIL
### SURFACE MOUNT

(4)$^1/_2$" Standard Hex Nuts w/ $^1/_2$" Flat Washers

(4) $^1/_2$" x 2 $^3/_4$" Expansion Anchors

Drum Leg

Concrete Slab

Crushed Rock

## DETAIL
### DIRECT BURY

Drum Leg

Finished Grade

Loose Fill Protective Surfacing

Subgrade

Concrete

Crushed Rock

34"
860

20" Min.
510

14"
360

## DETAIL
### SCREEN ATTACHMENT

Top Assembly

(3) $^5/_8$" O.D. x $^1/_2$" Long Bushings

(3) $^1/_4$" x $^3/_8$" Drive Rivets

Screen

Drum Leg

(3) $^3/_8$" x 1 $^3/_8$" BHCS w/Pin w/ $^3/_8$" SAE Flat Washers
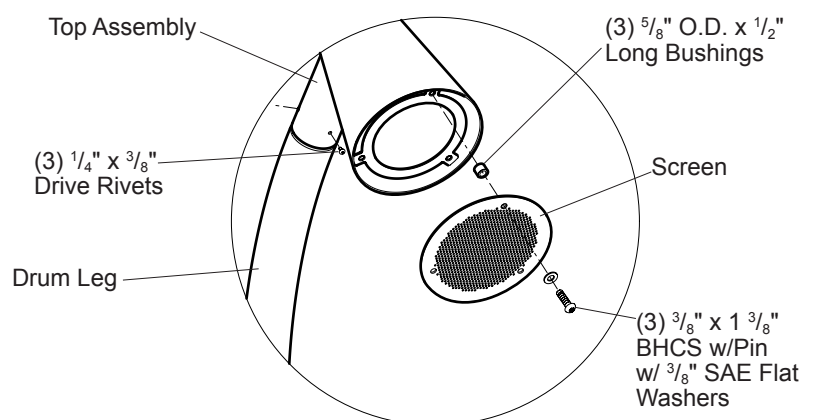
**Sensory Play**

# 214444 Kundu Drum

Document #23932000

**landscape structures®**

## Parts List

| Part# | Description | Qty. |
|---|---|---|
| 213936 | Drum Leg, (DB), Specify Color | 1 |
| 204402 | Drum Leg, (SM), Specify Color | 1 |
| 239316 | Kundu Drum Top Assembly, Specify Color | 1 |
| 204401 | Permalene Trim, Specify Color | 1 |
| 210434 | 10" Drum Screen, Specify Color | 1 |
| | | |
| **239317** | **Goblet/Kundu Drum Hardware Package** | 1 |
| 216760 | #14 x $^3/_4$" BHCS Torx, SST | 10 |
| 113027 | $^3/_8$" x 1 $^3/_8$" BHCS w/Pin, SST | 3 |
| 100365 | $^3/_8$" SAE Flat Washer, SST | 3 |
| 133368 | $^1/_4$" Nylon Washer, SST | 10 |
| 156962 | $^5/_8$" O.D. x $^1/_2$" Long, SST | 3 |
| 127463 | T-27 TPP Hex Bit (Torx), SST | 1 |
| 100611 | $^1/_4$" x $^3/_8$" Drive Rivet, AL/SST | 3 |
| | | |
| **121348** | **4-Hole Surface Mount Hardware Package** | 1 |
| 100266 | $^1/_2$" x 2 $^3/_4$" Standard Hex Nut, SST | 4 |
| 100322 | $^1/_2$" Standard Hex Nut, SST | 4 |
| 100363 | $^1/_2$" Flat Washer, SST | 4 |

**DB = Direct Bury**
**SM = Surface Mount**

## Specifications

**Drum Leg:** Made from 3.500" (88,9 mm) O.D. RS20 (.125")(3,17 mm) wall galvanized steel tubing. Finish: ProShield®, color specified.

**Top Assembly:** Weldment comprised of 3.500" (88,9 mm) O.D. RS20 (.125")(3,17 mm) wall galvanized steel tubing, 11 GA. (.120")(3,05 mm) flat steel and $^1/_8$" (3,17 mm) thick HRPO steel sheet. Finish: ProShield®, color specified.

**Trim:** Permalene®, color specified.

**Screen:** Made from 11 GA. (.125")(3,17 mm) thick aluminum sheet. Finish: ProShield®, color specified.

**Drum Head:** Translucent, UV stabilized polycarbonate with a matte textured surface on one side.

**Fasteners:** Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

**Installation Time:** **DB** - Approx. 3 man hours
**SM** - Approx. 2 1/2 man hours

**Concrete Req.:** **DB** - Approx. 1.78 cu. ft.
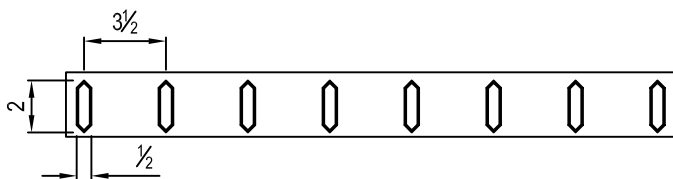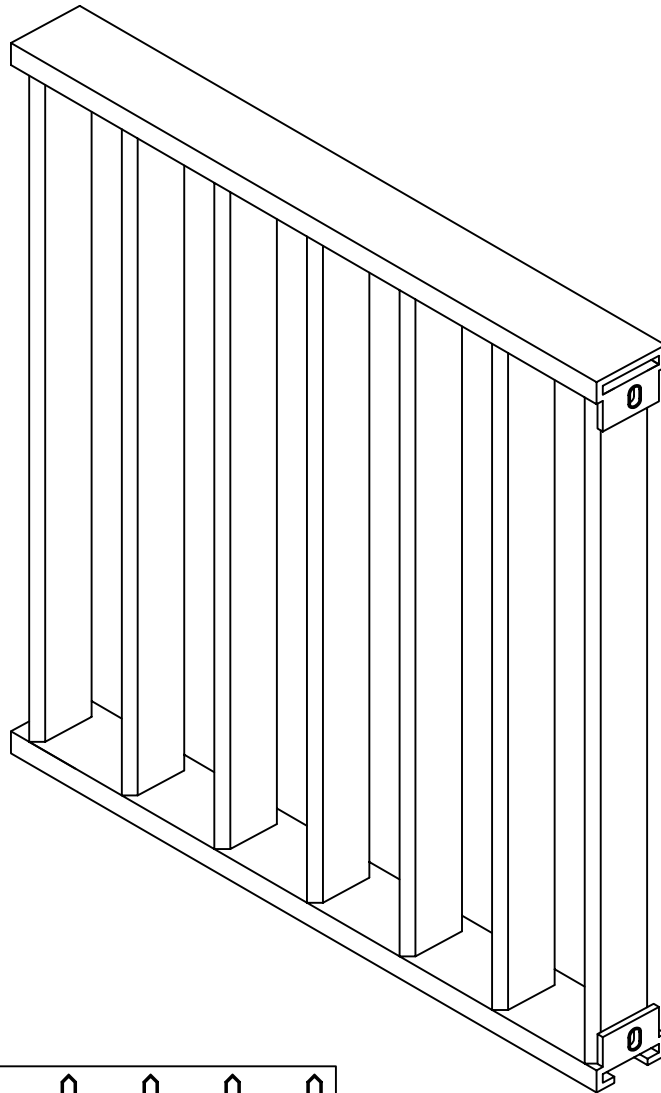
**Weight:** **DB** -54 lbs.
**SM** -49 lbs.

## Installation Instructions

1) **(Direct Bury)** Dig footing as shown.

2) **(Direct Bury)** With lower portion of drum leg plumb and in final position, pour concrete footing. Allow concrete footing to cure for a minimum of 24 hours before attaching drum assembly, drum head and trim to drum leg.

   **(Surface Mount)** Drill $^1/_2$" x 3" deep holes through drum mount post plate using hammer drill and $^1/_2$" masonry bit. Tap expansion anchors into drilled holes. Fasten drum mount post plate to expansion anchors using $^1/_2$" standard hex nuts with $^1/_2$" flat washers.

3) Place drum onto leg. Drill through holes in drum assembly and into drum leg with a $^1/_4$" or "F" (only) drill bit. Insert $^1/_4$" x $^3/_8$" drive rivets into holes and hammer rivet pins in until flush with head.

4) Attach drum head and trim to top assembly, as shown. Refer to the Drum Assembly Detail.

5) Attach screen to drum top assembly. Refer to the Screen Attachment Detail.

3½

2

½

NOTES:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. ALL DIMENSIONS ARE CONSIDERED TRUE AND REFLECT MANUFACTURER'S SPECIFICATIONS.
3. AMETCO'S ALUMNIUM FENCING SYSTEM IS 100% MANUFACTURED IN THE UNITED STATES.
4. DO NOT SCALE DRAWINGS.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info
   REFERENCE NUMBER 048-127
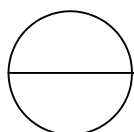
# ALUMINUM FENCE SYSTEMS

GALAXY DESIGN ALUMINUM FENCE SYSTEM

048-127